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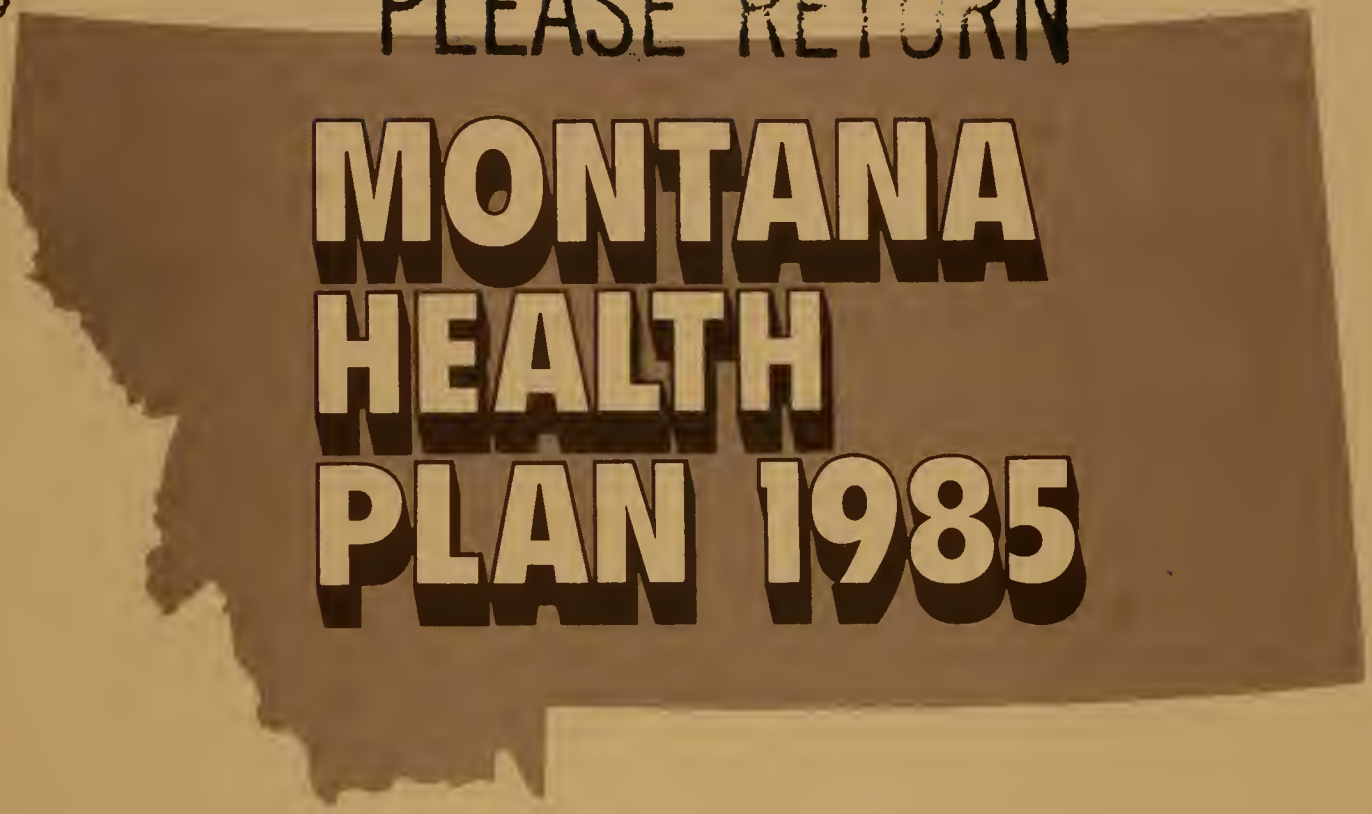

MONTANA HEALTH PLAN 1985

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FOREWORD

Plan Responsibility

The Montana Health Plan - 1985 is a document intended to be used as a basis for decisions of public policy on current and future health care issues in Montana. The Plan is the first combined State Health Plan/Health Systems Plan for Montana and is the result of the joint efforts of the Montana Health Systems Agency and the Statewide Health Coordinating Council with the support of the Montana Department of Health and Environmental Sciences. Because of this coordinated effort and the efforts of the voluntary health care professionals and lay health care consumers to delineate and prescribe desired health care delivery patterns in Montana, the Montana Health Plan - 1985 is presented for health planning guidance.

Plan Priorities

The priorities contained within the Montana Health Plan - 1985 coincide with important national health policy issues. The Plan has as its focus institutional health care and it addresses the following priorities:

1. Acute Care: Because nearly half of the nation's health care expenditures are for institutional acute care, the focus on hospitals will continue through the planning process and in project review activities in particular. Increased institutional capacity and the implications for future health care costs require planning agencies to continue to focus Certificate of Need reviews on the highest cost projects. The planning program remains the principal mechanism available for states and communities to identify health care capital and requirements for their area.

2. Long-Term Care: There are continuing problems associated with the aging of the population, access to care, and increased need for long-term care services. With increasing attention to the effects of the prospective payment system on hospital lengths of stay, there will be incentives to move acute care patients to longer-term care settings. Growing long-term care needs will require careful resource allocation decisions.

3. Alternative Delivery Systems: Developing more cost-effective alternatives to institutional care such as Home Health Care, day care and other community-based services remains an important area upon which to concentrate.

4. Health Care Reimbursement: Health planning agencies will continue to work on health care reimbursement. Linking health planning activities to health care reimbursement is among the more important challenges facing health planning agencies at the state and local levels. Those who are involved in making reimbursement decisions will be best served if health planning agencies can provide information on the implications of those decisions on local health care systems in terms of access, quality of care and costs.

Health Status

The health status in Montana has experienced little change over the past few years. Heart disease, cancer, alcoholism, and accidents are still significant as major causes of disability and death. Indeed, the 1983 edition of Montana Vital Statistics, produced by the Montana Department of Health and Environmental Sciences, continues to list these factors among the leading causes of death.

Examining and monitoring selected health status indicators could identify areas appropriate for preventive and health education programs. This would be consistent with the Montana Health Systems Agency's Annual Implementation Plan (AIP) which emphasizes prevention and promotion strategies.

Future Planning

The health planning process should next turn its attention to the health policy issues important at both the national and local levels -- promotion and prevention.

Updating planning documents relating to institutional services will continue to be done; however, future planning activity in Montana should feature promotion and prevention. Emphasizing prevention of illness and injury and encouraging healthier lifestyles is a necessary activity in health planning. Coupled with education about the health care system, prevention and promotion programs become a valuable asset to the consumer of health care.

State of Montana
Office of the Governor
Helena, Montana 59620

TED SCHWINDEN
GOVERNOR

January 10, 1985

Audrey H. Nora, M.D., M.P.H.
Regional Health Administrator
U.S. Department of Health and
Human Services
Federal Office Building
1961 Stout Street
Denver, Colorado 80294

Dear Doctor Nora:

This letter serves to transmit the Montana Health Plan - 1985 to the U.S. Department of Health and Human Services. I want to commend the Statewide Health Coordinating Council, the Montana Health Systems Agency and the Montana Department of Health and Environmental Sciences for their cooperation in producing a single health plan for Montana. This joint State Health Plan/Health Systems Plan was made possible by the effort of Montana's health consumers and providers.

The Montana Health Plan - 1985 gives to Montana's health consumers, providers, and regulating agencies a single document with which to consider the needs and resources impacting health care in our state.

Sincerely,

Ted Schwinden

TED SCHWINDEN
Governor

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INTRODUCTION

This Montana Health Plan - 1985 is the first joint plan developed by the Statewide Health Coordinating Council and the Health Systems Agency. These two agencies, with the SHCC supported by the Department of Health and Environmental Sciences, enlisted the cooperation of health care consumers, health care providers, and State government in developing the plan. This combined effort has produced a plan which addresses contemporary health issues in Montana.

This plan sets forth criteria and standards by which health issues will be evaluated. Through use of the plan, Montana's institutional health resources can be more efficiently managed.

Future health planning in Montana will include not only updates of institutional health plans, but will consider health improvement through prevention, promotion, and education.

The adoption of the Montana Health Plan - 1985 results from multidisciplinary cooperation and its implementation should benefit both consumers and providers of health care.

Philip Catalfomo, Ph.D., Chairman
Montana Health Systems Agency
Governing Board

J. Melvin Williams, Chairman
Statewide Health Coordinating
Council

John J. Drynan, M.D., Director
Montana Department of Health
and Environmental Sciences

Health Systems

ALCOHOL AND DRUG ABUSE PROGRAMS

Goal:

Alcohol and Drug Abuse Services shall be available and accessible to all Montanans by:

A. maintaining the current level of chemical dependency services in Montana,

B. maintaining the quality of chemical dependency services provided in Montana, and

C. encouraging efforts to reduce the cost of providing chemical dependency services in Montana.

Objectives:

1. Beginning January, 1985, all state-approved outpatient programs will maintain a minimum counselor/client ratio of 1 to 20.

2. All state-approved inpatient, detoxification and intermediate care treatment program components will maintain an occupancy rate of at least 70% by 1985.

3. By December, 1985, demonstrate program effectiveness as measured by the following indicators:

   Detoxification - maintain at least 70% bed utilization; 80% completion ratio; and 50% successful referrals to other treatment.

   Inpatient - maintain at least 70% bed utilization; 80% completion ratio; follow-up contact with 70% of clients 6 months after discharge; and document 80% improvement 6 months after discharge.

   Intermediate - maintain 70% bed utilization; document 70% completion ratio; 75% successful referrals to employment or education programs at

discharge; follow-up contact with 60% of clients 6 months after discharge; and document 80% improvement 6 months after discharge.

Outpatient - maintain 100% of required 1/20 staff to client ratio; provide at least 2.5 counseling sessions to client per month; maintain 45% completion ratio; follow-up contact with 55% of clients 6 months after discharge; and document 80% improvement 6 months after discharge.

4. At the beginning of each planning cycle, reevaluate the bed need methodology in cooperation with the Department of Health and Environmental Sciences (DHES) and the Alcohol and Drug Abuse Division (ADAD) of the Department of Institutions.

Actions:

1. The Montana Health Systems Agency (MHSA) will encourage general acute care hospitals seeking beds for substance abuse services to fill the need through the use of excess general acute care beds.

2. The MHSA will cooperate with DHES and ADAD in developing a bed need methodology which will reflect specific needs of adolescents (ages 14-19 years).

3. Discourage duplication of services/programs through the Certificate of Need (CON) process.

4. Encourage program consolidation when necessary, including development of multi-county and/or multi-district programs.

1.0 Background

1.1 Service Definition

Alcohol and drug abuse services have mushroomed in recent years. The host of available services varies widely from state to state. However, the services that are addressed in this component are limited to those available in Montana.

Substance Abuse refers to any misuse of alcohol and/or other drugs.

Montana Code Annotated defines Chemical Dependency as "the use of any chemical substance, legal or illegal, which creates behavioral or health problems, or both, resulting in operational impairment. This term includes alcoholism, drug dependency, or both, that endanger the health, interpersonal relationships, or economic functions of an individual or the public health, welfare or safety."[1]

Chemical, in this component, refers to a drug introduced into the body for a specific effect other than cure, mitigation, treatment or prevention of diseases (e.g., alcohol, narcotics).

Detoxification (emergency care) component - services required for the treatment of persons intoxicated or incapacitated by alcohol and/or drugs. Detoxification involves clearing the system of alcohol and/or drugs and enabling individual recovery from the effects of intoxication. These services include screening of intoxicated persons, counseling of clients to obtain further treatment, and referral of detoxified persons to other appropriate treatment programs.

The Medical Model consists of a short-term treatment, during which medications (i.e., prescription drugs) are used to restore physiological functioning after the body is upset by toxic agents, such as alcohol. The Social Model consists of the management of alcohol withdrawal through environmental manipulation and empathetic staff rather than through the use of medication.

Inpatient (hospital care) component - treatment for persons requiring 24-hour supervision in a licensed hospital or suitably-equipped medical setting licensed by DHES under Section 50-5-201, MCA. Services include medical evaluation and health supervision; alcoholism education; organized individual, group and family counseling; discharge referral to necessary supportive services; and a client follow-up program after discharge.

Inpatient (freestanding care) component - treatment for persons requiring 24-hour supervision in a community-based residential setting. Services include a physical exam signed by a licensed physician; alcoholism education; organized individual, group and family counseling; discharge referral to necessary supportive services and a client follow-up program after discharge.

Intermediate (transitional living care) component - a non-medical residential facility in a community-based setting. These facilities provide a transitional phase for individuals who have recently received alcoholism inpatient care services and require a moderately-structured living arrangement. Services provided include counseling services (individual and group), alcoholism education, and social and recreational activities. These individuals are encouraged to seek vocational rehabilitation, occupational training, education and/or employment as soon as possible.

Outpatient care component - services provided on a regularly scheduled basis to clients residing outside a program. Services include crisis intervention; counseling; alcohol education; referral services; and a client follow-up program after discharge.

1.2 Services and Settings

Legal authority for provision of alcohol and drug abuse services by the State of Montana is specified in the Montana Code Annotated (MCA), Title 53, Chapter 24. Additional regulations are specified under the Administrative Rules of Montana (ARM), Volume 7, Chapter 3. Under delegated authority from the Director of the Department of Institutions and 53-24-204, MCA, the Alcohol and Drug Abuse Division will:

1. approve treatment programs in accordance with 53-24-208, MCA, and ARM, Vol. 7, Chapter 3,

2. prepare a long-term (four-year) state chemical dependency plan for the delivery of treatment services,

3. provide and conduct statewide services system evaluations,

4. distribute state and federal funds to the counties for approved treatment programs in accordance with the provisions of 53-24-206, MCA,

5. plan, in conjunction with approved programs and provide for training of program personnel delivering services to chemically dependent persons,

6. establish criteria for development of new programs,

7. certify chemical dependency counselors,

8. plan for the greatest utilization of funds by discouraging duplication of services; encourage efficiency of services through existing programs; and encourage rural counties to form multi-county districts or to contract with urban programs for services,

9. cooperate with the Board of Pardons in establishing and conducting programs to provide treatment for chemically dependent and intoxicated persons in or on parole from penal institutions, and

10. establish standards for county chemical dependency planning and approve or disapprove county plans as required by 53-24-211, MCA.

The administration of chemical dependency programs by the State is designed to accomplish the following:

1. assure that all state-approved chemical dependency treatment service providers meet the provisions of Chapter 24 of Title 53, MCA,

2. assure that outpatient services are available to all Montana counties,

3. assure that all funded service providers operate at an optimum level,

4. assure that clients are provided a continuum of services and are not lost in the referral process,

5. assure that treatment services are not duplicated within counties, and

6. assure that special populations (minorities, youth, women, aged) receive adequate and appropriate services.

Treatment and Rehabilitation

The purposes of treatment and rehabilitation programs are to minimize identifiable problems caused by alcohol and drugs for individuals and for society, while increasing abuser participation in socially acceptable, productive activities as an alternative to dysfunctional abuse. The use of any chemical substance, legal or illegal, which creates behavioral or health problems resulting in operational impairment is viewed as substance abuse.

Prevention: Prevention of alcohol and drug abuse (according to the Montana Comprehensive Chemical Dependency Plan) is predicated on the philosophy that each individual is responsible for his own actions and, given accurate and sufficient information and education, will make responsible decisions with regard to the use of alcohol and other drugs. The ADAD prevention mission is, therefore, to provide all citizens of Montana with the information necessary for them to make responsible decisions about the use of alcohol and drugs, to promote alternatives to alcohol and drug abuse and to educate parents, teachers, health professionals and social service personnel in effective techniques for promoting prevention activities.[2]

1.3 National Trends[3]

Due to the adverse impact that alcohol/drug abuse has on society, it continues to receive a great deal of attention at all levels of government.

According to the National Council on Drug Abuse, alcoholism continues to lead the way as a major contributor to the causes of death and degenerative disease in America. This includes murder, suicide, traffic accidents, heart disease, liver disease and many ailments and problems directly related to excessive alcohol consumption. Despite the statistics, the citizenry continues to consume large amounts of the drug each year. Other alcohol-related disorders include some cancers, stillbirths, and Fetal Alcohol Syndrome. A federal White Paper on Drug Abuse states:

> "Regrettably, we probably will always have a drug problem of proportion. Therefore, we must be prepared to continue our efforts and our commitment indefinitely, in order to contain the problem at a minimal level in order to minimize the adverse social and economic cost of drug abuse."[4]

Society's stereotype of alcohol or drug abusers has changed. For example, the drug problem was previously thought of as applying to users of narcotics and other addictive chemicals, leading to a cycle of addictive physical and psychological dependency and eventual involvement in criminal activity to support the drug habit. Concern has arisen for a large group of drug users -- juveniles and young adults, who use marijuana, LSD, and other drugs for relaxation, socialization, self-exploration and "kicks." A more recent trend is the poly-drug users who use many different drugs including alcohol. It is evident that the problem of substance abuse is woven in all areas of our society and is larger than formerly acknowledged. Stressed businessmen and businesswomen, housewives, students, senior citizens and many others throughout our culture are candidates for coping with their problems through alcohol/drug use and its consequent dependency.

The use of alcohol and other drugs by children and teenagers in the United States has reached alarming proportions. The emotional and physical impact of such use on developing minds and bodies and the potential effects on society are of major concern. At least one in every 16 high school seniors is actively smoking marijuana on a daily basis and one in 16 drinks alcohol daily. About two-thirds of all young people try an illicit drug before they finish high school and about one-third try an illicit drug other than marijuana. Although there has been a slight decline in teenage use of many

illicit drugs from the peak levels attained in the late 1970's, the present levels are the highest to be found in any nation in the industrialized world.[5]

Information on the current prevalence of drug use among American high school seniors and data on recent trends in such use have been gathered in annual nationwide surveys conducted for the National Institute on Drug Abuse by the University of Michigan's Institute of Social Research.[6]

Prevalence Among High School Seniors

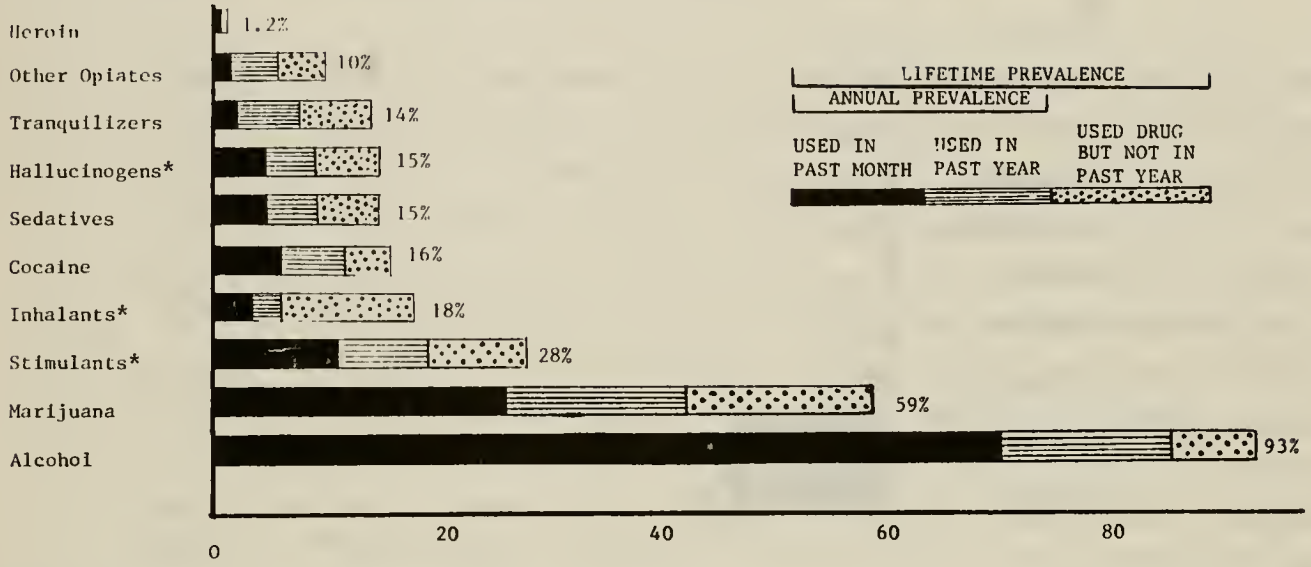
Figure 1 illustrates the prevalence and most recent use of 10 types of drugs by high school seniors in the class of 1982. As shown in the figure, nearly all students (93 percent) had tried alcohol at some time and the great majority (70 percent) had used it in the previous month.

Marijuana was by far the most widely-used illicit drug, with 59 percent of the seniors reporting some use during their lifetime, 44 percent reporting some use in the previous year, and 29 percent reporting some use in the previous month. Of the other illicit drugs, stimulants ranked second (28 percent) in lifetime prevalence. Inhalants at 18 percent and cocaine at 16 percent ranked third and fourth, closely followed by sedatives and hallucinogens -- both at 15 percent -- and tranquilizers at 14 percent. Opiates other than heroin had been used by 10 percent of seniors, but only 1.2 percent admitted that they had ever used heroin. Figure 1 also indicates that illicit drug classifications generally remain in the same order when ranked by prevalence in the most recent month or year. Inhalants were the exception because the use of certain types of inhalants, such as glue and aerosols, tends to be discontinued at a relatively early age.

The more frequent the use of drugs, the greater the health hazard. Respondents were considered daily users of a drug if they reported they had used the drug on 20 or more occasions in the previous 30 days.

As shown in Figure 2, marijuana was used on a daily basis by 6.3 percent of the seniors in the survey. Although overall alcohol use among these young people was 5.7 percent, a substantial proportion (41 percent) reported that

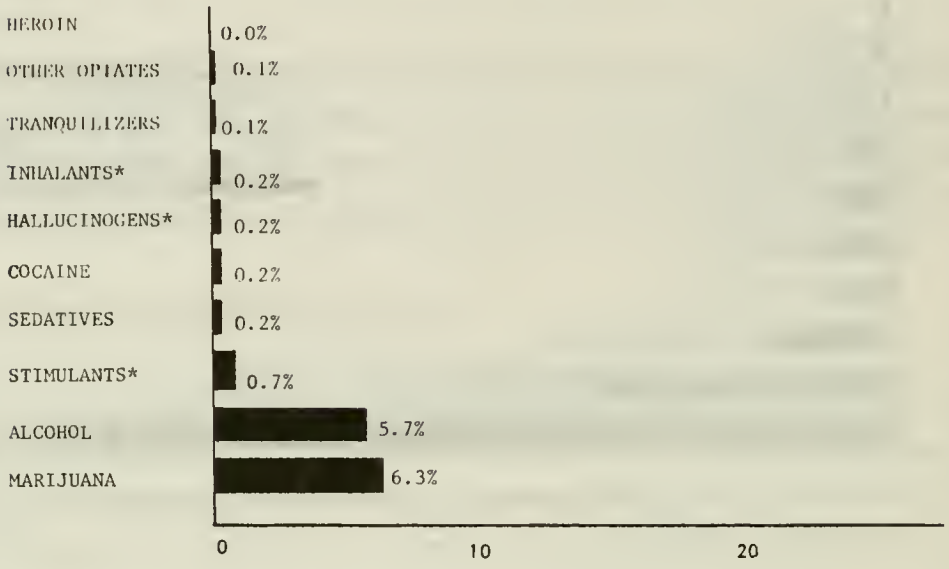
Figure 1
Prevalence of Drug Use — High School Seniors, Class of 1982



*Adjusted

SOURCE: Basic data from the National Institute on Drug Abuse, Student Drug Use in America: 1975-1982. Graph produced by the Montana Health Systems Agency.

Figure 2
Prevalence of Daily Drug Use in 30-Day Period – High School Seniors Class of 1982



* Adjusted

Note: All drugs used on 20 or more occasions in the preceding 30 days.

SOURCE: National Institute on Drug Abuse, Student Drug Use in America 1975-1982. Graph produced by the Montana Health Systems Agency.

on at least one occasion during the prior two weeks they had five or more drinks in a row. Less than 1 percent of the respondents reported daily use of any of the illicit drugs other than marijuana.

In general, higher proportions of male than female students were involved in illicit drug use in 1982. The annual prevalence rates for such major drug classifications as inhalants, hallucinogens, and heroin, as well as the specific drugs PCP, LSD and nitrites, were one and one-half to two times higher among males than among females. Males reported higher usage rates for cocaine, sedatives (including barbiturates and methaqualone), marijuana and opiates other than heroin. Tranquilizers were used by equal proportions of both sexes. Only stimulants were used by a slightly greater proportion of females than males, probably because more females use stimulants to achieve a weight loss. Slightly more males than females reported alcohol use, but frequent and heavy drinking were disproportionately concentrated among males.

Seniors expecting to complete four years of college reported lower rates of illicit drug use than did students who did not plan on college. In the case of frequent use of illicit drugs, there were even greater differences according to college plans. While there was little difference between the two groups in overall alcohol usage, frequent use of alcohol was more prevalent among those who did not expect to attend college.

Trends Among High School Seniors

Recent trends in drug use by high school seniors during the 1975-1982 period are shown in Tables 1 and 2. Although the proportion of seniors who have ever tried marijuana has changed very little since the peak level of 1979, current use (at least once in the previous month) has shown a considerable decrease -- from 37 percent in 1979 to 29 percent in 1982. Even more meaningful perhaps are the figures for daily use, which climbed rapidly from 6 percent of the students in 1975 to 11 percent in 1978, and then dropped back just as rapidly to 6 percent in 1982.

Annual prevalence rates in the use of PCP ("angel dust") have declined dramatically since measurement was started in 1979 -- from 7 percent to 2

Table 1
Trend in Drug Use by High School Seniors, 1975 - 1982

Types of Drug	Used Once or More in Lifetime Percent of Class of								Used Once or More in Past 12 Months Percent of Class of							
	1975	1976	1977	1978	1979	1980	1981	1982	1975	1976	1977	1978	1979	1980	1981	1982
Marijuana	47	53	56	59	60	60	60	59	40	45	48	50	51	49	46	44
Inhalants	NA	10	11	12	13	12	12	13	NA	3	4	4	5	5	4	5
Inhalants Adjusted[a]	NA	NA	NA	NA	19	18	17	18	NA	NA	NA	NA	9	8	6	7
Amyl and Butyl Nitrites	NA	NA	NA	NA	11	11	10	10	NA	NA	NA	NA	7	6	4	4
Hallucinogens	16	15	14	14	14	13	13	13	11	9	9	10	10	9	9	8
Hallucinogens Adjusted[b]	NA	NA	NA	NA	19	16	16	15	NA	NA	NA	NA	13	11	10	9
LSD	11	11	10	10	10	9	10	10	7	6	6	6	7	7	7	6
PCP	NA	NA	NA	NA	13	10	8	6	NA	NA	NA	NA	7	4	3	2
Cocaine	9	10	11	13	15	16	17	16	6	6	7	9	12	12	12	12
Heroin	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1
Other Opiates[c]	9	10	10	10	10	10	10	10	6	6	6	6	6	6	6	5
Stimulants[c]	22	23	23	23	24	26	32	36	16	16	16	17	18	21	26	26
Stimulants Adjusted[c,d]	NA	NA	NA	NA	NA	NA	NA	28	NA	NA	NA	NA	NA	NA	NA	20
Sedatives[c]	18	18	17	16	15	15	16	15	12	11	11	10	10	10	11	9
Barbiturates[c]	17	16	16	14	12	11	11	10	11	10	9	8	8	7	7	6
Methaqualone[c]	8	8	9	8	8	10	11	11	5	5	5	5	6	7	8	7
Tranquilizers[c]	17	17	18	17	16	15	15	14	11	10	11	10	10	9	8	7
Alcohol	90	92	93	93	93	93	93	93	85	86	87	88	88	88	87	87

[a]Adjusted for underreporting of amyl and butyl nitrites.

[b]Adjusted for underreporting of PCP.

[c]Only drug use which is not prescribed by a physician.

[d]Adjusted for overreporting of nonprescription stimulants.

NA: Not available.

SOURCE: Student Drug Use in America: 1975-1982, National Institute on Drug Abuse, compiled by the Montana Health Systems Agency.

Table 2
Trend in Drug Use by High School Seniors, 1975 - 1982

Types of Drug	Used Once or More in Past 30 Days, Percent of Class of								Daily Use in Past 30 Days, Percent of Class of							
	1975	1976	1977	1978	1979	1980	1981	1982	1975	1976	1977	1978	1979	1980	1981	1982
Marijuana	27	32	35	37	37	34	32	29	6.0	8.2	9.1	10.7	10.3	9.1	7.0	6.3
Inhalants	NA	1	1	2	2	1	2	2	NA	.0	.0	.1	.0	.1	.1	.1
Inhalants Adjusted[a]	NA	NA	NA	NA	3	3	2	3	NA	NA	NA	NA	.0	.2	.2	.0
Amyl and Butyl Nitrites	NA	NA	NA	NA	2	2	1	1	NA	NA	NA	NA	.0	.1	.1	.0
Hallucinogens	5	3	4	4	4	4	4	3	.1	.1	.1	.1	.1	.1	.1	.1
Hallucinogens Adjusted[b]	NA	NA	NA	NA	6	4	4	4	NA	NA	NA	NA	.2	.2	.1	.2
LSD	2	2	2	2	2	2	3	2	.0	.0	.0	.0	.0	.0	.1	.0
PCP	NA	NA	NA	NA	2	1	1	1	NA	NA	NA	NA	.1	.1	.1	.1
Cocaine	2	2	3	4	6	5	6	5	.1	.1	.1	.1	.2	.2	.3	.2
Heroin	Less than .05 percent ----------								.1	.0	.0	.0	.0	.0	.0	.0
Other Opiates[c]	2	2	3	2	2	2	2	2	.1	.1	.2	.1	.0	.1	.1	.1
Stimulants[c]	9	8	9	9	10	12	16	14	.5	.4	.5	.5	.6	.7	1.2	1.1
Stimulants Adjusted[c,d]	NA	NA	NA	NA	NA	NA	NA	11	NA	NA	NA	NA	NA	NA	NA	.7
Sedatives[c]	5	5	5	4	4	5	5	3	.3	.2	.2	.2	.1	.2	.2	.2
Barbiturates[c]	5	4	4	3	3	3	3	2	.1	.1	.2	.1	.0	.1	.1	.1
Methaqualone[c]	2	2	2	2	2	3	3	2	.0	.0	.0	.0	.0	.1	.1	.1
Tranquilizers[c]	4	4	5	3	4	3	3	2	.1	.2	.3	.1	.1	.1	.1	.1
Alcohol	68	68	71	72	72	72	71	70	5.7	5.6	6.1	5.7	6.9	6.0	6.0	5.7

[a]Adjusted for underreporting of amyl and butyl nitrites.

[b]Adjusted for underreporting of PCP.

[c]Only drug use which is not prescribed by a physician.

[d]Adjusted for overreporting of nonprescription stimulants.

NA: Not available.

SOURCE: Student Drug Use in America: 1975-1982, National Institute on Drug Abuse, compiled by the Montana Health Systems Agency.

percent over a four-year period. Annual use of the amyl and butyl nitrites ("poppers" and "snappers") also declined appreciably between 1979 and 1981, and continued at the lower level in 1982. Annual prevalence rates for methaqualone increased between 1978 and 1981, but the drug declined in popularity for the first time in 1982. The annual use of barbiturates, on the other hand, has been declining steadily.

The annual prevalence of heroin use has remained constant since 1975, but the degree of use is likely to be underestimated. The use of opiates other than heroin remained at much the same level through 1981 but dropped slightly in 1982. Cocaine use more than doubled between 1975 and 1981, but declined slightly for the first time in 1982, dropping from 12.4 percent to 11.5 percent. The sharp rise in recreational use of stimulants -- from 18 percent in 1979 to 26 percent in 1981 -- seems to have halted in 1982. However, the use of diet pills by female seniors is still particularly high.

The annual prevalence of alcohol use has remained about the same since 1975, continuing at high levels.

As shown in Table 3, in 1982 more than one-fourth (27 percent) of children aged 12-17 reported that they had tried marijuana at some time during their lifetime, and about one-eighth (12 percent) reported current use (used in the previous month).

In 1982, about one out of every 10 children aged 14-15, and about half of those 16-17 years of age, had used marijuana. The use of cocaine among children aged 12-17 rose from 5 percent in 1979 to 7 percent in 1982.

Among children aged 12-17, the proportion of current alcohol users dropped from 37 percent in 1979 to 27 percent in 1982. A comparison of the current use of marijuana and alcohol among children 12-17 years of age in selected years is presented in Figure 3.

Table 3
Trends in Drug Use by Youths 12 - 17 Years of Age, 1972 - 1982

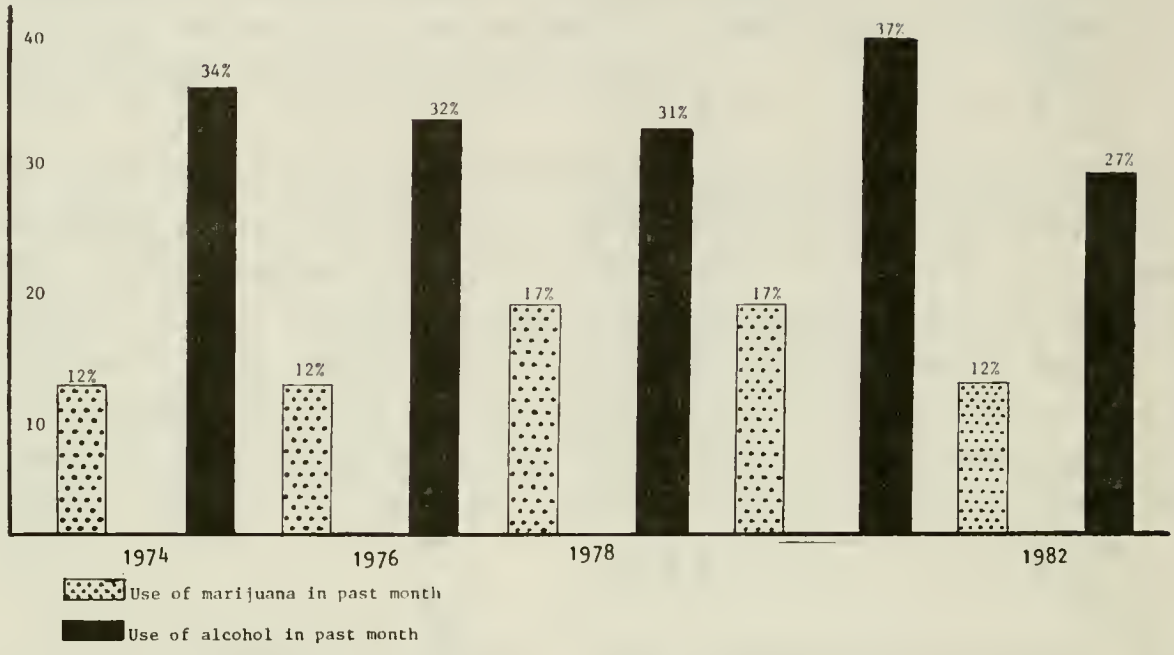
Type of Drug	Used Once or More in Lifetime Percent				Used Once or More in Past 12 Months Percent				Used Once or More in Past 30 Days Percent			
	1972	1976	1979	1982	1972	1976	1979	1982	1972	1976	1979	1982
Marijuana	14	22	31	27	NA	18	24	21	7	12	17	12
Hallucinogens	5	5	7	5	4	3	5	4	1	1	2	1
Cocaine	2	3	5	7	2	2	4	4	1	1	1	2
Heroin	1	1	1	*	*	*	*	*	*	*	*	*
Nonmedical Use of:												
Stimulants	4	4	3	7	NA	2	3	6	NA	1	1	3
Sedatives	3	3	3	6	NA	1	2	4	NA	NA	1	1
Tranquilizers	3	3	4	5	NA	2	3	3	NA	1	1	1
Analgesics	NA	NA	3	4	NA	NA	2	4	NA	NA	1	1
Any Nonmedical Use	NA	NA	7	10	NA	NA	6	8	NA	NA	2	4
Alcohol	NA	54	70	65	NA	49	54	47	NA	32	37	27

*Less than 0.5 percent.

NA: Not available.

SOURCE: National Household Survey on Drug Abuse, 1982. National Institute of Drug Abuse.

Figure 3
Current Use of Marijuana and Alcohol, Age 12-17, 1974-1982



SOURCE: Basic data from the National Institute on Drug Abuse, National Household Survey on Drug Abuse, 1982. Graph produced by the Montana Health Systems Agency.

Preventive Measures

Combatting the drug abuse problem must go far beyond the monitoring and reporting of trends in drug use. Survey statistics are at best conservative estimates of substance use among adolescents. Surveys based on self-reported data can vary widely from actual behavior, and the exclusion of school dropouts could well result in an underestimation of the alcohol and drug problems among young people. Despite these limitations, the level of substance use among adolescents, as revealed in these surveys, clearly indicates the need for education and prevention measures among children of school age.

Montana Trends

-- Over 101,000 Montanans are estimated to suffer problems from alcohol use or misuse. Each alcohol abuser affects the lives of at least four others. This means that 404,000 Montanans from among the drinkers' families, friends, co-workers and employers indirectly suffer the effects of alcohol abuse. (See Table 4)

-- State-approved chemical dependency programs have averaged over 5,500 first admissions per year since 1980. (See Table 5)

-- Treatment of youth 17 years and younger has increased from 7% of first admissions to state-approved programs in 1980 to 10% in 1983. Admissions for clients between the ages of 18-20 have increased from 8% of the treatment population in 1980 to 12% in 1983. First admissions of young adults between the ages of 21-25 have increased from 14% of the treatment population in 1980 to 19% in 1983. (See Table 6)

-- Since stiffer DUI legislation was enacted in October, 1981, first admissions to Montana's Court Schools for DUI offenders have nearly tripled. (See Table 7)

-- Fifty percent of all persons killed on Montana highways in 1983 had been drinking and 56% of all drivers killed had been drinking prior to the accident. (See Table 8)

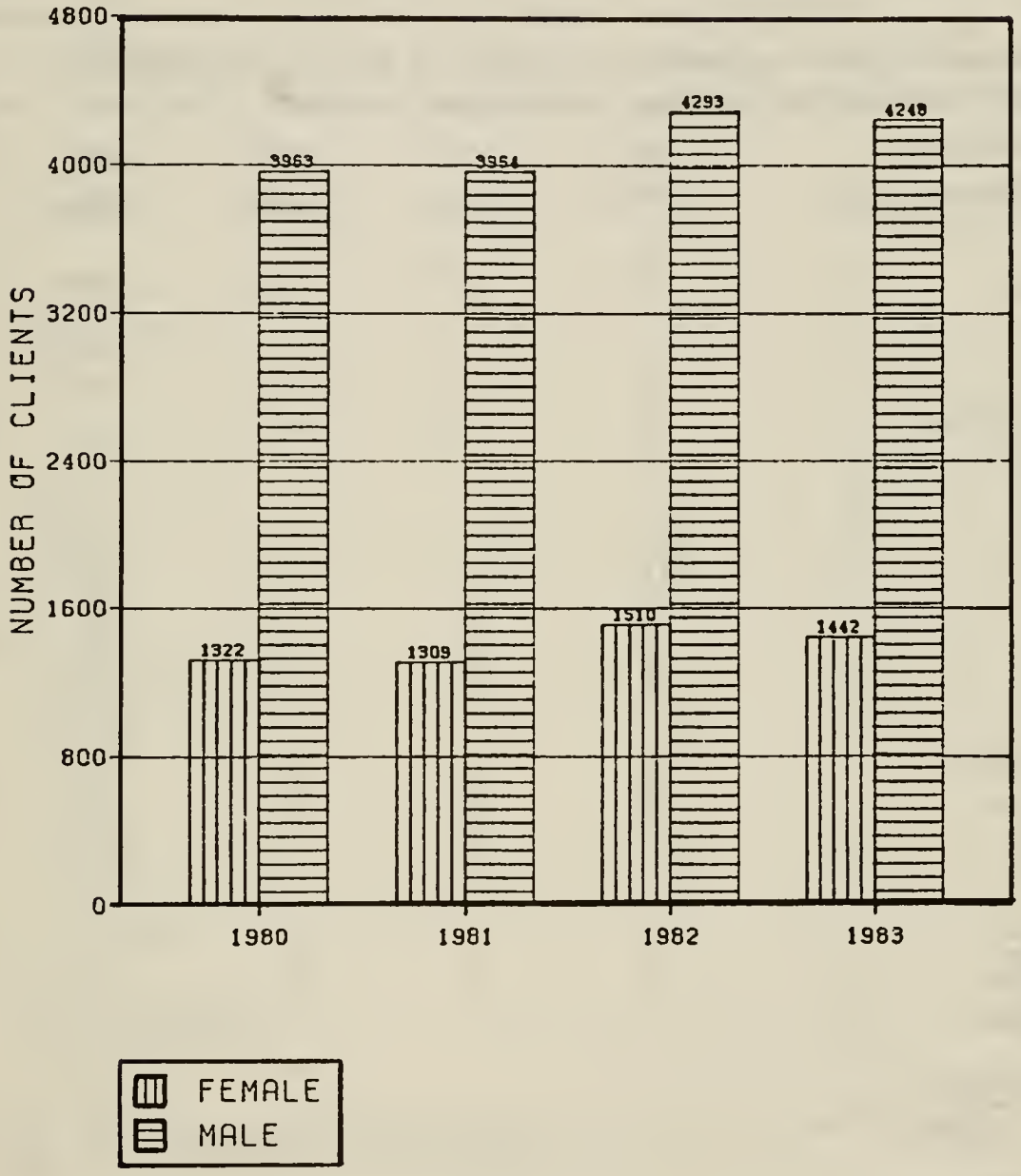
Table 4
Estimated Alcohol Abusers by Region

REGION	TOTAL POPULATION	POPULATION (Non-Indian)	ESTIMATED ABUSERS (Non-Indian)		POPULATION (Indian)	ESTIMATED ABUSERS (Indian)	
Eastern	98,122	90,045	9,005	10%	8,077	5,645	70%
North Central	143,510	130,410	13,041	10%	13,100	9,170	70%
South Central	160,234	152,599	15,260	10%	7,635	5,345	70%
Southwestern	185,191	182,635	18,264	10%	2,556	1,789	70%
Northwestern	199,633	193,731	19,373	10%	5,902	4,131	70%
TOTAL	786,690	749,420	74,943		37,270	26,089	

TOTAL ESTIMATED ABUSERS 101,032

SOURCE: U.S. Department of Commerce, Bureau of the Census, 1980 Census of Population and Housing (Advance Reports), compiled by the Montana Health Systems Agency.

Table 5
Chemical Dependency Admissions — First Admissions, By Year of Admission for Calendar Years 1980 - 1983



SOURCE: Montana Department of Institutions, Alcohol and Drug Abuse Division, Montana Comprehensive Chemical Dependency Plan 1984-1987.

Table 6

State Total Primary Client Characteristics at Admission to State Approved Chemical Dependency Programs - First Admissions, Calendar Years 1980-1983*

Client Characteristics	1980	1981	1982	1983
Total 1st Admissions	5,285	5,273	5,803	5,690
SEX				
Male	75%	75%	74%	75%
Female	25	25	26	25
RACE				
White	79	83	83	83
Black	1	.5	1	
Native American	19	15	15	15
Hispanic	1	.5	1	2
Other				
AGE				
0-17	7	8	11	10
18-20	8	9	12	12
21-25	14	15	16	19
26-30	14	15	15	16
31-44	31	31	29	28
45-64	23	19	15	13
65+	3	3	2	2
MARITAL				
Never Married	33	35	42	44
Married	32	32	27	28
Separated	6	6	7	6
Divorced	25	24	21	20
Widowed	4	3	3	2
EMPLOYMENT				
Full-Time	30	31	26	28
Part-Time	5	6	9	9
Unemployed	65	63	65	63
HEALTH INSURANCE				
None			58	60
Medicaid/Medicare			6	5
Blue Cross/Blue Shield			9	7
Private Insurance			12	13
Other			15	13

*in percents

SOURCE: Montana Department of Institutions, Alcohol and Drug Abuse Division, Montana Comprehensive Chemical Dependency Plan 1984-87.

Table 7

State Total DUI Client Characteristics at Admission to State Approved Chemical Dependency Programs - First Admissions, Calendar Years 1980-1983*

Client Characteristics	1980	1981	1982	1983
Total 1st Admissions	1,219	1,550	2,800	3,596
SEX				
Male	87%	84%	85%	84%
Female	13	16	15	16
RACE				
White	91	93	85	88
Black		.5	.5	
Native American	6	5	8	11
Hispanic	2	1	1	1
Other	1	.5	.5	
AGE				
0-17	3	3	2	3
18-20	13	14	15	12
21-25	22	21	22	23
26-30	15	15	17	18
31-44	26	28	25	27
45-64	19	16	17	16
65+	2	3	2	2
MARITAL				
Never Married	43	43	46	44
Married	33	34	32	31
Separated	3	3	3	4
Divorced	18	18	17	19
Widowed	3	2	2	2
EMPLOYMENT				
Full-Time	67	62	56	54
Part-Time	9	10	11	11
Unemployed	24	28	33	35
HEALTH INSURANCE				
None			39	45
Medicaid/Medicare			4	4
Blue Cross/Blue Shield			14	11
Private Insurance			23	20
Other			20	14

*in percents

SOURCE: Montana Department of Institutions, Alcohol and Drug Abuse Division, Montana Comprehensive Chemical Dependency Plan 1984-87.

Table 8
Fatalities and Drinking 1983 — Montana

	DRIVERS		PASSENGERS		PEDESTRIANS		BICYCLISTS		TOTAL	
Month	Killed	HBD	Killed	HBD	Killed	HBD	Killed	HBD	Killed	HBD
Jan.	11	7	4	2	5	3	0	0	20	12
Feb.	13	4	6	0	2	0	0	0	21	4
Mar.	11	5	5	2	1	1	1	0	18	8
Apr.	9	6	5	2	2	1	0	0	16	9
May	13	11	8	4	1	1	0	0	22	16
June	14	8	6	0	4	2	2	0	26	10
July	21	9	7	4	1	0	1	0	30	13
Aug.	31	15	15	9	5	4	0	0	51	28
Sept.	21	18	12	5	1	0	1	0	35	23
Oct.	10	7	4	0	1	1	0	0	15	8
Nov.	18	8	2	1	1	1	0	0	21	10
Dec.	6	1	3	1	2	0	0	0	11	2
TOTAL	178	99	77	30	26	14	5	0	286	143

HBD - had been drinking [.05% blood alcohol or more]

56% of drivers killed had been drinking
39% of passengers killed had been drinking
54% of pedestrians killed had been drinking
50% of all persons killed had been drinking

SOURCE: Montana Highway Patrol

-- According to Alcohol Epidemiologic Data System (contracted by National Institute on Alcohol and Alcoholism (NIAAA)), Montana consistently ranks high nationally in alcohol beverage consumption and has averaged around twelfth since 1980. (See Table 9)

-- According to 1982 data published by the Bureau of Records and Statistics, accidents are the fourth leading cause of death in Montana following heart disease, cancer and strokes. Over half (54%) of the accidental deaths were attributable to motor vehicle accidents. Accidents involve younger people than those dying from heart disease, cancer and strokes, and motor vehicle accidents involve even younger people than other types of accidents. Seventy-nine percent of all accidental deaths in the 15-24 year age group resulted from motor vehicle accidents; 55 percent of deaths from all causes in the 15-24 year age group were from motor vehicle accidents.

-- Cirrhosis of the liver ranks as the fifth leading cause of death in the 25-44 year age group and fourth in the 45-64 year age group. (See Table 10)

-- Montana has a serious multi-drug problem with a total of 1,078 admissions out of 5,690 first admissions for drugs other than alcohol in 1983. (See Table 11)

-- Out of the 5,690 first admissions, 44% had a secondary problem with drugs other than alcohol and 16% had a tertiary problem with drugs other than alcohol.

-- Marijuana is the most frequently reported drug of abuse followed by amphetamines and cocaine.

Table 9
Ranks of the States for Apparent Per Capita Consumption in Gallons of Absolute Alcohol, 1980-1982

State	1980 Gallons	1980 Rank	1981 Gallons	1981 Rank	1982 Gallons	1982 Rank
Montana	3.21	12	3.28	12	3.16	13

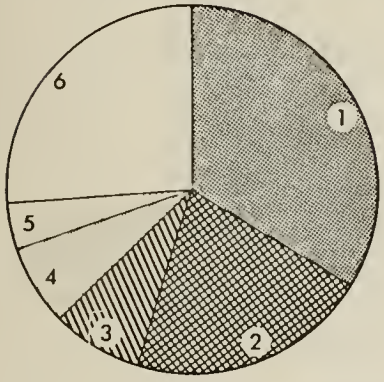
Rank	1980	1981	1982
1	Nevada	Nevada	DC
2	DC	DC	Nevada
3	New Hampshire	New Hampshire	New Hampshire
4	Alaska	Alaska	Alaska
5	Wisconsin	Wisconsin	Hawaii
6	Hawaii	Wyoming	Florida
7	Wyoming	California	Colorado
8	California	Hawaii	Wisconsin
9	Colorado	Colorado	Wyoming
10	Vermont	Vermont	Vermont
11	Florida	Arizona	California
12	Montana	Montana	Delaware
13	Massachusetts	Florida	Montana

Per capita consumption in gallons of absolute alcohol.

SOURCE: Alcohol Epidemiological Data System CSR, Inc. Operates the Alcohol Epidemiological Data System under Contract No. ADM - 281-82-003 for the Division of Biometry and Epidemiology.

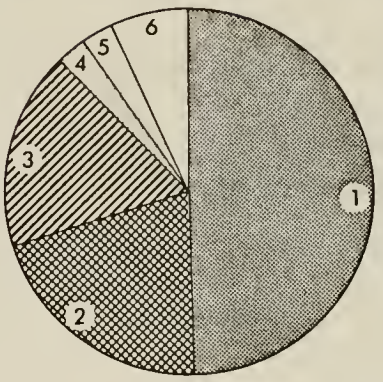
Table 10
Leading Causes of Death by Age Group — Montana 1982 (By Place of Residence)

ALL AGES



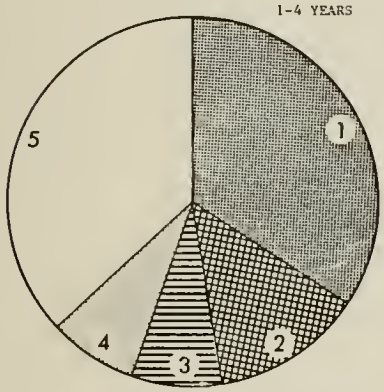
Cause of Death	Number of Deaths
1. Heart Disease	2,236
2. Cancer	1,384
3. Stroke	528
4. Accidents	471
5. Chronic Obstructive Pulmonary Diseases	274
6. Other Causes	1,732
Total Deaths	6,625

UNDER 1 YEAR



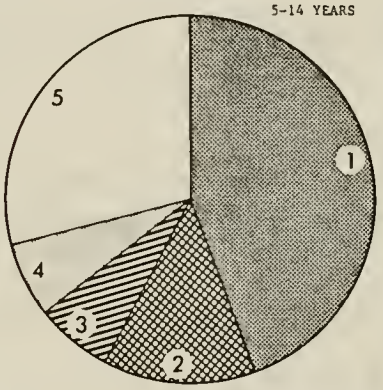
Cause of Death	Number of Deaths
1. Diseases of Early Infancy	73
2. Congenital Anomalies	30
3. Sudden Infant Death	26
4. Accidents	4
5. Pneumonia & Influenza	4
6. Other Causes	10
Total Deaths	147

1-4 YEARS



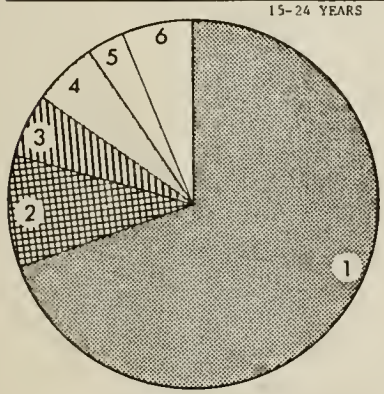
Cause of Death	Number of Deaths
1. Accidents	13
2. Congenital Anomalies	5
3. Cancer	3
4. Homicide	3
5. Other Causes	14
Total Deaths	38

5-14 YEARS



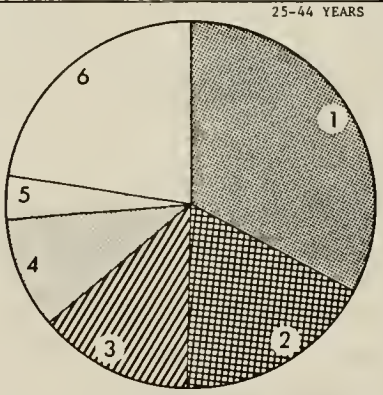
Cause of Death	Number of Deaths
1. Accidents	20
2. Cancer	6
3. Heart Disease	3
4. Pneumonia	3
5. Other Causes	13
Total Deaths	45

15-24 YEARS



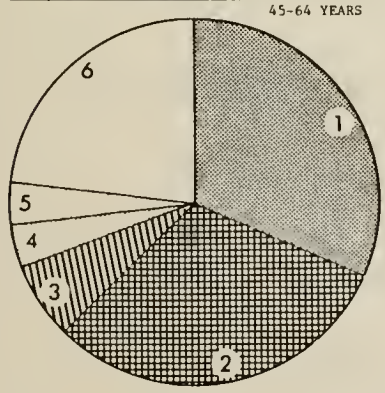
Cause of Death	Number of Deaths
1. Accidents	134
2. Suicide	19
3. Cancer	11
4. Homicide	11
5. Congenital Anomalies	6
6. Other Causes	12
Total Deaths	193

25-44 YEARS



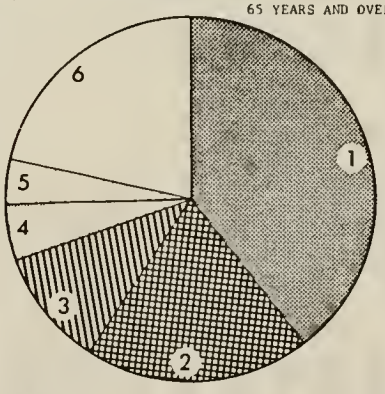
Cause of Death	Number of Deaths
1. Accidents	128
2. Cancer	68
3. Suicide	53
4. Heart Disease	38
5. Cirrhosis of Liver	15
6. Other Causes	88
Total Deaths	390

45-64 YEARS



Cause of Death	Number of Deaths
1. Cancer	403
2. Heart Disease	397
3. Accidents	86
4. Cirrhosis of Liver	49
5. Stroke	47
6. Other Causes	297
Total Deaths	1,279

65 YEARS AND OVER



Cause of Death	Number of Deaths
1. Heart Disease	1,795
2. Cancer	893
3. Stroke	470
4. Chronic Obstructive Pulmonary Diseases	227
5. Pneumonia & Influenza	175
6. Other Causes	971
Total Deaths	4,531

Ages of two decedents were not stated.

SOURCE: Montana Department of Health and Environmental Sciences, Bureau of Records and Statistics.

Table 11

Primary Drug of Abuse at First Admission, Calendar Year 1983

Drugs of Abuse by Region	None	Alcohol	Opiates	Barbiturates	Amphetamines	Cocaine	Hash/ Marijuana	Hallucinogens	Inhalants	Tranquilizers	Other	Total
Region I	3	640		10	8	15	71	2		6	2	757
Region II	3	567	3	1	13	17	48	13	0	6	0	671
Region III	2	757	16	6	22	19	121	13	4	3		963
Region IV	3	730	20	6	47	18	90	30	6	14		964
Region V	1	972	18	12	44	24	123	10	11	17	4	1,236
Galen ASC	5	843	3	3	7	6	30	6	1			904
Galen-Lighthouse		4	3	2	4	4	15	4	0	2		38
Correctional Programs		82	4	1	3	3	58	4		1	1	157
TOTAL	17	4,595	67	41	148	106	556	82	22	49	7	5,690
PERCENT	0%	81%	1%	1%	3%	2%	10%	1%	0%	1%	0%	100%

SOURCE: Montana Department of Institutions, Alcohol and Drug Abuse Division, Montana Comprehensive Chemical Dependency Plan 1984-87.

2.0 Current Situation

2.1 Availability

Availability is a measure of the supply of acute substance abuse and the resources for providing them. There are five chemical dependency programs operated by the State at four institutional settings. They are:

1. The Montana State Hospital

   a. The Montana Alcohol Service Center -- a 72-bed inpatient facility (Galen);

   b. The Lighthouse Drug Treatment Center -- a 15-bed long-term inpatient drug treatment facility (Galen);

2. Correctional Dependency Program at the State Prison;

3. Swan River Youth Forest Camp; and

4. Pine Hills School for Boys.

Publicly-supported chemical dependency services in Montana are delivered in two major settings: community outpatient programs and inpatient programs. There are also chemical dependency programs throughout the State which are not publicly funded but have met State standards and have State approval. Table 12 shows the number of chemical dependency programs in the State.

2.2 Accessibility

The 1983 Montana Legislature passed a bill (SB 107) which required that benefits for the treatment of alcoholism and drug addiction be made available to all group and individual health policies (Section 33-22-703, MCA).

Major changes in the new legislation, in addition to mandatory group coverage, include: payment of fees for treatment in freestanding state-

Table 12
Approved Chemical Dependency Programs — Montana 1984

Planning Region	Number of Approved Programs	Number of Approved Care Components		
		Inpatient	Intermediate	Outpatient
Region I	5	1	0	12
Region II	6	3	2	7
Region III	6	1	0	10
Region IV	12	2	2	16
Region V	9	1	1	11
State	38	8	5	56[a]

[a] Includes satellite offices.

SOURCE: Montana Department of Institutions, Alcohol and Drug Abuse Division, Montana Comprehensive Chemical Dependency Plan 1984-87.

approved inpatient and outpatient facilities, payment if the treatment plan is approved and monitored by either a physician or State-certified chemical dependency counselor, minimum benefits of $4,000 in any 24-month period and $8,000 in lifetime benefits, and no less than 30 days of inpatient benefits. Insurance coverage will be a minimum of 50 percent for outpatient benefits.

The ADAD published a Third Party Reimbursement Manual to assist community programs in filing insurance claims for chemical dependency treatment. The manual also explains the minimum benefits that insurance carriers must offer as an option in their policies.

A workshop to assist programs in obtaining third-party reimbursements was developed by the Division and delivered in FY 84. Because outpatient programs are still having a difficult time in generating revenue from third-party sources, the Division will again deliver a workshop during FY 85 on billing and collecting from insurance companies with emphasis on billing for eligible services, persistence and timely follow-up.

The Division expects any chemical dependency program receiving State discretionary monies to generate a percent of their total operating budget from client fees -- 5 percent for Native American programs, 20 percent for outpatient and intermediate programs.

2.3 Cost

The Division of Alcohol and Drug Abuse, Department of Institutions, is designated as the state agency to administer the alcohol and drug abuse programs within the State. Tables 13, 14 and 15 show the FY 84-85 budgets of these programs.

3.0 Future Resource Requirements

3.1 Availability

Precise historical utilization data on all the substance abuse programs is not available at this time. Also, the utilization data on inpatient

Table 13

Montana State Alcohol and Drug Program Budget 1984-85

ADAD Administration	FY 84	FY 85
Earmarked Alcohol Tax Revenue	$ 291,242	$ 311,343
SSI - DA&A Referral Contract	21,081	22,363
Alcohol, Drug Abuse Block Grant	74,680	60,482
Total Administration	$ 387,003	$ 394,188
Montana Drug Program		
State General Fund	$ 219,606	$ 230,925
Alcohol, Drug Abuse Block Grant	405,892	414,817
Total Montana Drug Program	$ 625,498	$ 645,742
Community Programs		
Alcohol & Drug Abuse Block Grant - Discretionary	$ 398,622	$ 398,622
Earmarked Alcohol Tax Revenue-County Distribution	1,638,715	1,553,409
County - Block Grant Supplemental	199,258	284,564
Jobs Bill-Alcohol and Drug Abuse Block Grant	45,651	11,473
Total Program Grants	$2,282,246	$2,248,068
Total Proposed Budget	$3,294,747	$3,287,998

SOURCE: Montana Department of Institutions, Alcohol and Drug Abuse Division, Montana Comprehensive Chemical Dependency Plan 1984-87, p. 73.

Table 13a

FY 84 & 85 Estimated Alcohol Distribution by County of Alcohol Earmarked Tax and Federal Block Grant Funds to Provide the Projected Amount of $1,837,973

County	FY 84 Earmarked Tax	FY 84 Block Grant	FY 85 Earmarked Tax	FY 85 Block Grant
Beaverhead	23,889	2,905	22,645	4,148
Big Horn	28,150	3,423	26,684	4,888
Blaine	19,628	2,387	18,606	3,408
Broadwater	7,804	949	7,398	1,355
Carbon	17,840	2,169	16,911	3,098
Carter	8,790	1,069	8,333	1,526
Cascade	147,431	17,926	139,757	25,602
Chouteau	17,433	2,120	16,525	3,027
Custer	29,572	3,596	28,033	5,135
Daniels	7,462	907	7,074	1,296
Dawson	24,918	3,030	23,621	4,327
Deer Lodge	23,424	2,848	22,204	4,068
Fallon	9,427	1,146	8,937	1,637
Fergus	30,336	3,689	28,756	5,268
Flathead	100,732	12,248	95,489	17,492
Gallatin	80,181	9,749	76,006	13,923
Garfield	10,469	1,273	9,924	1,818
Glacier	23,838	2,899	22,597	4,139
Golden Valley	3,806	463	3,608	661
Granite	7,714	938	7,312	1,339
Hill	36,806	4,475	34,890	6,391
Jefferson	15,244	1,854	14,451	2,647
Judith Basin	7,867	957	7,457	1,366
Lake	36,279	4,411	34,391	6,300
Lewis and Clark	82,111	9,984	77,836	14,259
Liberty	6,559	798	6,218	1,139
Lincoln	37,725	4,587	35,761	6,551
Madison	9,196	1,118	8,717	1,597
McCone	15,617	1,899	14,804	2,712
Meagher	7,797	948	7,391	1,354
Mineral	8,576	1,043	8,130	1,489
Missoula	139,059	16,909	131,821	24,148
Musselshell	11,035	1,342	10,460	1,916
Park	26,865	3,267	25,467	4,665
Petroleum	3,960	481	3,753	688
Phillips	18,324	2,228	17,370	3,182
Pondera	14,705	1,788	13,939	2,553
Powder River	10,025	1,219	9,503	1,741
Powell	16,275	1,979	15,428	2,826
Prairie	6,178	751	5,857	1,073
Ravalli	43,869	5,334	41,585	7,618
Richland	25,202	3,064	23,890	4,376
Roosevelt	22,573	2,745	21,398	3,920
Rosebud	26,053	3,168	24,697	4,524
Sanders	20,064	2,440	19,020	3,484
Sheridan	12,455	1,514	11,806	2,163
Silver Bow	68,678	8,351	65,103	11,926
Stillwater	12,950	1,575	12,276	2,249
Sweetgrass	8,808	1,071	8,350	1,530
Teton	15,377	1,870	14,577	2,670
Toole	13,145	1,598	12,460	2,283
Treasure	3,404	414	3,226	591
Valley	26,568	3,231	25,185	4,614
Wheatland	6,580	800	6,238	1,143
Wibaux	4,120	501	3,905	715
Yellowstone	195,822	23,810	185,629	34,006
TOTAL	1,638,715	199,258	1,553,409	284,564

SOURCE: Montana Department of Institutions, Alcohol and Drug Abuse Division, Montana Comprehensive Chemical Dependency Plan, FY 84-87.

Table 14
Expenditure of Discretionary Funds — FY 84 - 85

	FY 84 Approved		FY 85 Requested		ADAD Recommendation		Advisory Council Recommendation		ADAD FINAL		'85 Approved		Number Contracted Clients Outpatient
	Total	State	Total	State	Total	State	Total	State	Total	State	Total	State	Month
District II - Glendive	172,562	40,317	185,175	42,860	178,863	37,810	178,863	37,810	178,863	37,810	178,863	37,810	90
District III - Miles City	154,033	20,549	165,039	22,407	152,265	12,187	154,163	13,705	154,163	13,705	154,163	13,705	80
Fort Belknap	146,629	11,369	174,402	11,369	162,782	-0-	162,782	-0-	162,782	-0-	162,782	-0-	-0-
Medicine Pine Lodge	182,652	17,038	200,687	26,330	188,757	14,650	188,757	14,650	189,958	15,791	189,958	15,791	20
Milltop - Havre	299,064	88,077	(4 @ 65.00)	94,900	(5 @ 52.00)	94,900	5 @ 53.60	97,820	5 @ 53.60	97,820	5 @ 53.60	97,820	*
AOCM - Lewistown	79,142	12,269	84,673	13,070	82,955	11,696	82,955	11,969	82,955	11,696	82,955	11,696	50
Musselshell - Golden Valley	39,451	16,289	41,005	17,816	39,920	15,290	39,920	15,290	39,920	15,290	39,920	15,290	20
So. Cent. MT CMnC - Billings	133,915	27,244	N/A	23,354	N/A	23,354	N/A	23,354	N/A	23,354	N/A	23,354	**
Park/Meagher Co.	76,979	25,892	79,160	23,248	79,084	23,187	79,084	23,187	79,084	23,187	79,084	23,187	60
Beaverhead/Madison Co.	-0-	-0-	90,454	29,147	73,341	7,366	74,941	8,646	74,941	8,646	74,941	8,646	50
Butte Indian	98,101	14,841	111,200	27,252	102,025	6,935	102,715	7,487	102,715	7,487	102,715	7,487	32
Anaconda/Deer Lodge Co.	57,085	17,477	62,613	25,763	59,368	16,897	59,368	16,897	59,368	16,897	59,368	16,897	30
Powell County-Deer Lodge	28,434	1,532	37,184	11,659	31,763	2,646	31,783	2,846	31,783	2,846	31,783	2,646	20
Boyd Andrew	228,371	47,582	261,641	59,269	244,836	45,825	244,836	45,825	244,836	45,825	244,836	45,625	80
RCDP - Missoula - Mineral Co.	10,551	3,271	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-
Lincoln-Sanders-Mineral	149,274	54,855	176,046	58,402	175,913	61,395	175,913	61,395	175,913	61,395	175,913	61,395	130***
JOBS BILL													
Big Horn County	7,500	7,500	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-
Ronan	14,275	14,275	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-
Ravalli	15,070	15,070	86,959	20,530	86,959	20,364	86,959	20,364	86,959	20,364	86,959	20,364	50
Lincoln/Sanders	8,806	8,806	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-
GRAND TOTAL	1,901,834	444,273	1,756,238	507,396	1,656,851	394,702	1,663,039	400,972	1,664,240	402,113	1,664,240	402,113	712

* Contract will pay for 1,925 bed days.
** Contract will pay for 713 hourly units of counseling services.
*** Jobs Bill and Mineral County included.

SOURCE: Montana Department of Institutions, Alcohol and Drug Abuse Division, Montana Comprehensive Chemical Dependency Plan 1984-87.

Table 15
FY 84 – FY 85 Drug Funding

	FY 84 Contracts	FY 85 Contracts	Contracted Clients Monthly
District II - Glendive	18,720	28,080	18
District III - Miles City	17,680	26,520	17
Providence - Great Falls	62,400	62,400	40
Rimrock - Billings	46,800	46,800	30
SCMRMHC - Billings	31,200	31,200	20
Gallatin Council - Bozeman	78,000	78,000	50
Butte/Silver Bow	86,564	86,564	50
Anaconda/Deer Lodge County	43,835	43,835	30
Boyd Andrew - Helena	62,400	62,400	40
Recovery Foundation - Missoula	93,600	93,600	60
Salish/Kootenai - Ronan	31,200	31,200	20
Flathead Valley - Kalispell	46,800	46,800	30
TOTAL	619,199	637,399	405

Contracts were from November 1, 1983 - June 30, 1984.

SOURCE: Montana Department of Institutions, Alcohol and Drug Abuse Division, Montana Comprehensive Chemical Dependency Plan 1984-87.

substance abuse services offered by local acute care hospitals is difficult to assess because these services have historically been provided in license categories defined to provide other types of services. Therefore, hospital inpatient substance abuse beds are not included in this assessment of resource requirements.

The method adopted for projecting bed need for inpatient substance abuse services is based on past experience as indicated in the ADAD data management system. (See Table 16) This methodology will be in temporary use until December of 1984 when a new improved formula shall be adopted jointly by ADAD, DHES, and MHSA. The present formula is the one currently being used by ADAD. The study from which this formula was derived is, however, almost 12 years old and therefore unreliable.

3.2 Accessibility

As the projections show, Regions I, II and IV are already overbedded. Region III shows a need for eight additional beds by 1987, and there is a need for three additional beds in Region V over the same period.

As indicated, substance abuse services are evenly distributed throughout the State. In addition to privately-run for-profit programs and state-run programs, each county in the State receives earmarked funds for direct operation of substance abuse programs. This procedure makes services accessible for most Montana residents. The state-mandated third-party reimbursement of substance abuse services also improves financial accessibility for many residents.

The cost estimate for the 1985 Fiscal Year has already been discussed in Section 2.3.

4.0 General Analysis

Table 16
Projected Alcohol Inpatient Bed Need by Region

Formula	Region I	Region II	Region III	Region IV	Region V	State
Estimated Abusers	14,659	22,211	20,605	20,053	23,504	101,032
10% Will Seek Services	1,466	2,221	2,061	2,005	2,350	10,103
25% of 10% Will Need Inpatient/Residential (Based on 28 Days)	367	555	515	50	588	2,526
Bed Days Needed	10,276	15,540	14,420	14,028	16,464	70,728
Number of Beds Needed (100% Utilization)	28	43	40	38	45	194
Number of Beds Needed (80% Utilization)	35	53	49	48	56	242
Galen Reduction	8%	6%	21%	38%	27%	
(64 Beds)	5	4	14	24	17	64
Recommended Number of Beds (Does Not Include Galen)	30	49	35	24	39	177
State Approved Alcohol Treatment Beds as of 5/1/81 (Does Not Include Detox or Transitional Living. Also Does Not Include Galen.)	51	65	27	14	18	175
Other Beds	0	0	0	34	18	52
Total Available Beds	51	65	27	48	36	227
Difference	+21	+10	-8	+24	-3	+50

SOURCE: Montana Department of Institutions, Alcohol and Drug Abuse Division, Montana Comprehensive Chemical Dependency Plan 1984-87.

4.1 Issues

State-Mandated Insurance Coverage for Alcohol and Drug Abuse (Chemical Dependency) Services

State statutes that mandate coverage for chemical dependency treatment have increased revenues for chemical dependency treatment service. However, the impact of state statutes that require the offering of health insurance coverage for alcoholism is less clear. For example, many states reduce public grant and contract funding if third-party reimbursement is received by a program.

The major beneficiaries of state statutes that mandate health insurance coverage of chemical dependency service seem to be hospitals and private for-profit programs. In order to maximize the level of insurance reimbursement, most programs need technical assistance in developing more adequate documentation of services, unit costing, and billing procedures.

Information collected by the National Drug and Alcoholism Treatment Utilization Survey (NDATUS) indicates that 47% of hospitals received private health insurance as a source of reimbursement for alcoholism treatment services while only 13% of freestanding alcoholism treatment facilities received reimbursement from health insurance.[7] One reason is that many of the clients served do not carry health insurance or the programs have not established billing procedures. It was estimated that the survey includes 95 percent of all organized alcoholism treatment programs, both hospital-based and non-hospital-based, throughout the United States and territories.

Furthermore, the alcoholism programs which received private health insurance reimbursement received less federal, state and local government funds that those which did not. Seventy-six percent of programs which received private insurance reimbursement received no direct or indirect funding from NIAAA.

The publicly-funded chemical dependency treatment programs have unique problems with regard to receipt of private insurance reimbursements. On the one hand, many states require programs receiving state funding to

report receipts from any third-party reimbursement. State grants and contracts are then reduced proportionately. Health insurers, on the other hand, often reduce reimbursements proportionately by the amount of governmental grant support. The basic premise is that the program would be paid twice for the same service if such reductions were not implemented.

To further complicate the problem, many health insurers report a growing trend for companies not to use traditional health insurance carriers and instead to become self-insured. Self-insured companies are not required to abide by State mandates for coverage or to pay State insurance premium taxes. The trend toward self-insurance is due in part to the increasing number of services that are being mandated by states for inclusion in health insurance policies. For example, one state now has mandates for 24 services or professions; this clearly has placed heavy premium expenses on companies within the state.

Companies which convert their insurance plans to self-insured status fall under the jurisdiction of the Federal Employee Retirement Income Security Act 1974 (ERISA), which preempts state law. Therefore, the question as to whether state-legislated health insurance coverage makes a difference in availability of service or funding of treatment programs remains open to debate. While there can be no doubt that mandated coverage does contribute to encouraging people with chemical dependency problems to seek help and reduce the stigma associated with chemical dependency, there is no census as to the benefactor of health insurance legislation.

According to the Department of Institutions, this dilemma has not posed a serious problem for chemical dependency programs in Montana as State and county funds are not presently directly linked to the level of private insurance reimbursement. However, the Department of Institutions has required a percentage of programs' total budgets be generated from service revenue (which includes insurance reimbursement and client fees). During FY 1984, programs were required to generate 15% of their budget from service revenues; in FY 1985, 20% from service revenues; and by 1987, 25% of their budget must be generated from service revenues.

REFERENCES

1. Montana Code Annotated, Title 53, Chapter 24, Section 103 (4).

2. Montana Comprehensive Chemical Dependency Plan (1984-87), p. 11, ADAD, Department of Institutions.

3. Cody, Bianca, "Alcohol and Other Drug Abuse Among Adolescents," Statistical Bulletin, Vol. 65, No. 1, Jan-Mar 1984.

4. Santa Clara County Drug Abuse Treatment and Prevention, Drug Abuse Coordinating Commission, Santa Clara County Health Department, San Jose, CA, 1980.

5. Student Drug Use in America: 1975-82, National Institute on Drug Abuse, 1983.

6. See reference 5.

7. National Clearinghouse for Alcohol Information, P. O. Box 2345, Rockville, MD 20852.

CLINICAL CARDIOVASCULAR LABORATORIES AND CARDIAC SURGERY FACILITIES

Goal:

Cardiac angiographic procedures and cardiac surgery services should be available to the populace of Montana. These services should be maintained to provide the most efficient, cost effective diagnosis and treatment of the highest quality.

Objectives:

1. Facilities offering cardiac diagnostic and surgical services should conform to the guidelines presented in this plan.

Actions:

1. Certificates of Need should not be issued for proposals not consistent with the guidelines in this plan.

2. Service areas, use rates and other trends should be reexamined every two years to assure the continued applicability of the guidelines.

1.0 Background

1.1 Service Definition

Angiography is a broad term referring to a number of specialized diagnostic procedures. While there are four major subsets in angiography -- Cardiac, Cerebrovascular, Visceral and Peripheral -- the focus of this component will be on cardiac angiography. This involves two categories of procedures: a) coronary arteriography, in which a catheter is inserted into the coronary arteries followed by injection of an X-ray opaque fluid which enables a specialized X-ray to identify obstructions in the artery; and b) right and left heart catheterization, in which a catheter is passed into either the right or left heart chambers to measure how well the heart is pumping.

Cardiac angiography is performed in two types of laboratories. A dedicated lab is one in which all space, equipment and personnel are used for cardiac angiography only. An angiographic lab, or combined lab, is one in which both cardiac and non-cardiac angiographies are performed and in which personnel may be assigned to general radiographic duties when not engaged in angiographic procedures.

Cardiac angiography is an important diagnostic tool in determining the nature and extent of heart damage. It is used primarily for the evaluation of potential open-heart surgery candidates. Based on the information produced by such procedures, a cardiologist determines whether medical or surgical treatment is most appropriate for a patient. Approximately one out of every three individuals undergoing cardiac angiographic diagnosis have heart surgery. The use of cardiac angiography has increased considerably because of developments in coronary artery bypass (CAB) surgery.

Non-invasive techniques are receiving considerable attention in cardiac diagnostic work. Echocardiographic techniques[1,2] and nuclear magnetic resonance imaging[3] will likely have increasing application, but probably not reduce cardiac angiography use in the near future.

Cardiac angiography techniques and equipment are now being used in therapy as well as diagnosis. Angioplasty[4] and application of intracoronary streptokinase[5] are examples of therapeutic procedures performed in the angiography laboratory.

Open-heart surgery refers mainly to heart surgery requiring use of a heart-lung bypass machine to perform the functions of circulation during surgery. (Note: The heart-lung bypass machine is sometimes used for procedures other than open-heart surgery.) Such surgery is but one form of treatment for specific symptoms associated with some forms of heart disease.

Surgical techniques have been developed during the past decades to deal with selected heart conditions -- primarily 1) congenital heart abnormalities, 2) acquired valvular disease or aneurysm, 3) disabling angina pectoris which is unresponsive to other medical treatment, and 4) major narrowing in proximal segments of major branches of coronary arteries.

More recently, surgery and other procedures mentioned above have been employed to treat preinfarction angina and uncontrollable ventricular arrhythmia.

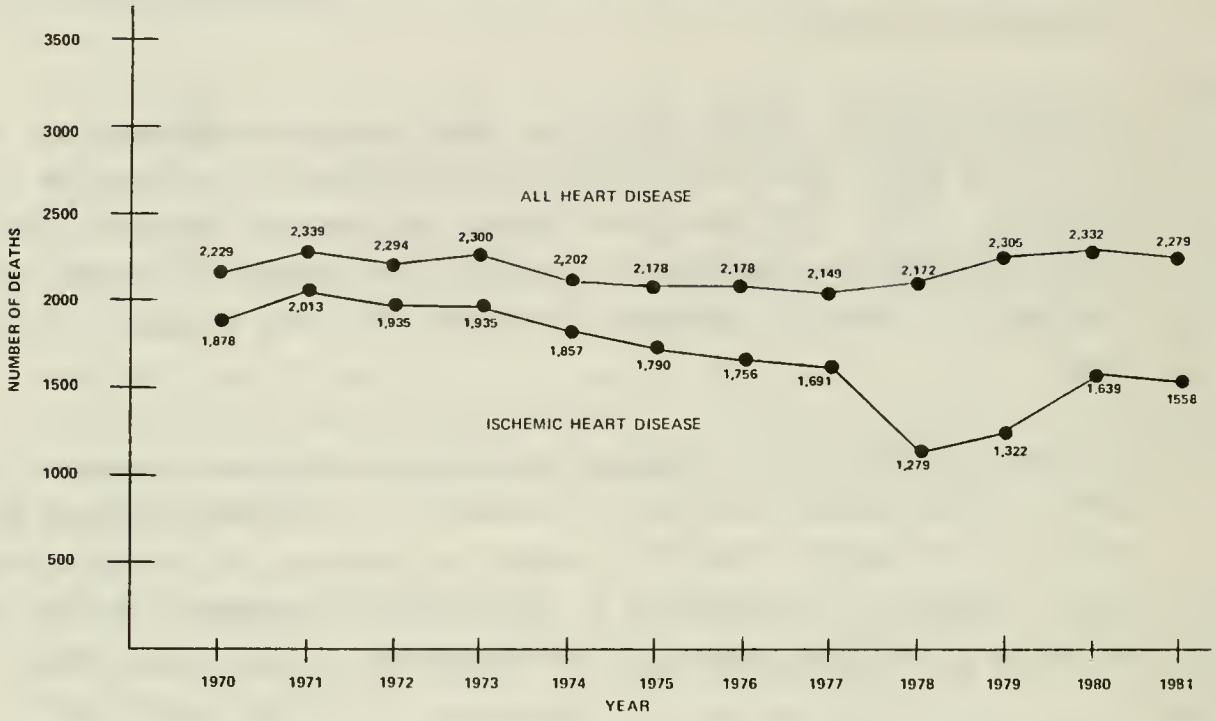
1.2 Services and Settings

Cardiac angiography and open-heart surgery services are only provided in regional centers. These services are provided for Montana primarily in Billings, Great Falls, and Missoula. Spokane, Washington, also receives a large number of Montana cardiac surgery patients. The Billings service serves northern Wyoming. There is no pediatric cardiac center in Montana.

1.3 Trends

Figure 1 illustrates the total deaths each year attributed to heart disease in Montana. The crude death rate for heart disease has decreased from 321.0 per 100,000 population in 1970 to 292.9 per 100,000 in 1981.[6] Heart disease is the number one cause of death in Montana overall, although other

Figure 1
Deaths Attributed to Heart Disease — Montana, 1970-1981



SOURCE: Montana Department of Health and Environmental Sciences.

causes lead for all age groups under 65 years. Data on the incidence and prevalence of heart disease in Montana is not available.

The use of cardiac catheterization and open-heart surgery for treatment and diagnosis has increased continually in Montana since its beginning in Billings in 1972. Tables 1 and 2 list the yearly number of procedures for each of the service units through 1982.

2.0 Current Situation

2.1 Availability

Cardiac angiographic and open-heart surgery services for Montana are located in Billings, Great Falls, and Missoula. These locations coincide with other regional tertiary service centers within the State.

A patient origin study for open-heart surgery in Montana was conducted for 1981 and 1982[7]. Figures 2, 3 and 4 are maps showing the service areas indicated by the patient origin study. Service Area I is served by St. Patrick Hospital in Missoula. Service Area II is served by Great Falls, where Montana Deaconess Hospital offers cardiac angiography and open-heart surgery, and Columbus Hospital initiated cardiac angiography services in 1983. Service Area III has cardiac angiography services in Billings at Billings Deaconess and St. Vincent Hospitals and open-heart surgery at Billings Deaconess only.

2.2 Accessibility

Specialized cardiac services are accessible to 75 percent of all Montanans within 200 miles. The rate of open-heart surgery for Montana residents 15 years and older was 1.77 per 1,000 persons in 1982, compared to 1.78 nationally for the same year[8]. This rate was obtained while two of the three Montana based services still operate below the optimum number of surgeries per year. Access is considered adequate with the present three regional centers.

Table 1
Number of Cardiac Catheterizations (Intercardiac and/or Coronary Artery by Facility) – Montana, 1972-1983

	Facility			
Fiscal Year	Billings Deaconess	St. Patrick (Missoula)	Montana Deaconess (Great Falls)	St. Vincent (Billings)
1972	15			
1973	54			
1974	69	87		
1975	240	257	104	
1976	434	382	105	
1977	505	451	204	
1978	486	360	343	111
1979	364	522	343	288
1980	394	540	325	298
1981	535	595	320	331
1982	494	591	332	445
1983	576	930	384	564

SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau, Annual Survey of Hospitals and Medical Facilities.

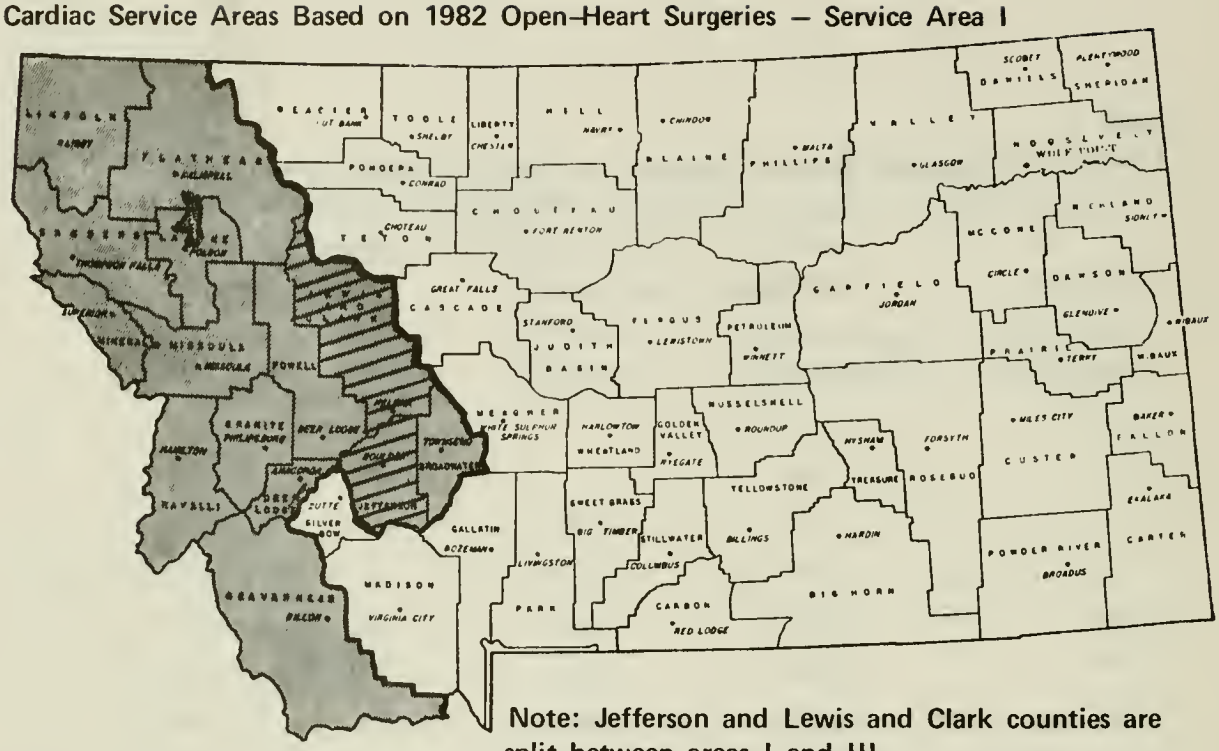
Table 2

Number of Open-Heart Surgery Procedures by Facility — Montana, 1972-1983

Fiscal Year	Facility: Billings Deaconess	St. Patrick (Missoula)	Montana Deaconess (Great Falls)
1972	18		
1973	53		
1974	68		
1975	95		
1976	174	94	
1977	178	134	
1978	166	112	
1979	216	155	
1980	340	160	
1981	457	136	50
1982	501	79	121
1983	545	205	105

SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau, Annual Survey of Hospitals and Medical Facilities.

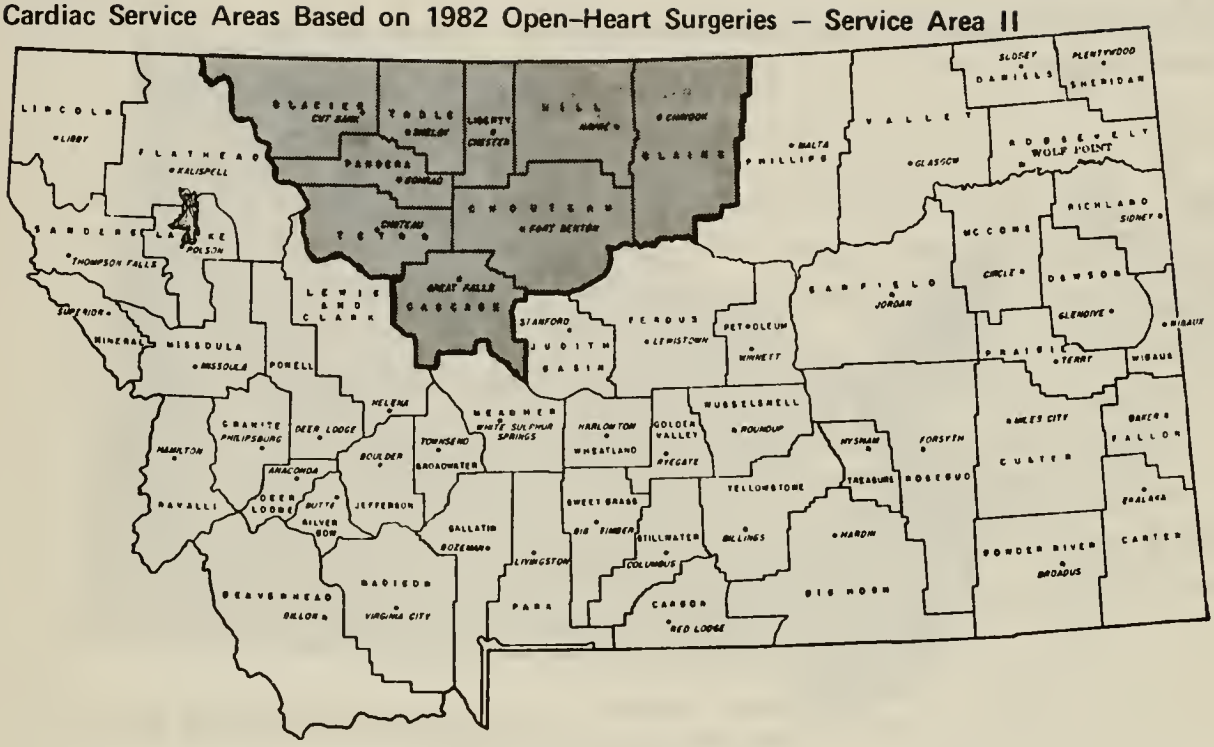
Figure 2
Cardiac Service Areas Based on 1982 Open-Heart Surgeries – Service Area I



Note: Jefferson and Lewis and Clark counties are split between areas I and III

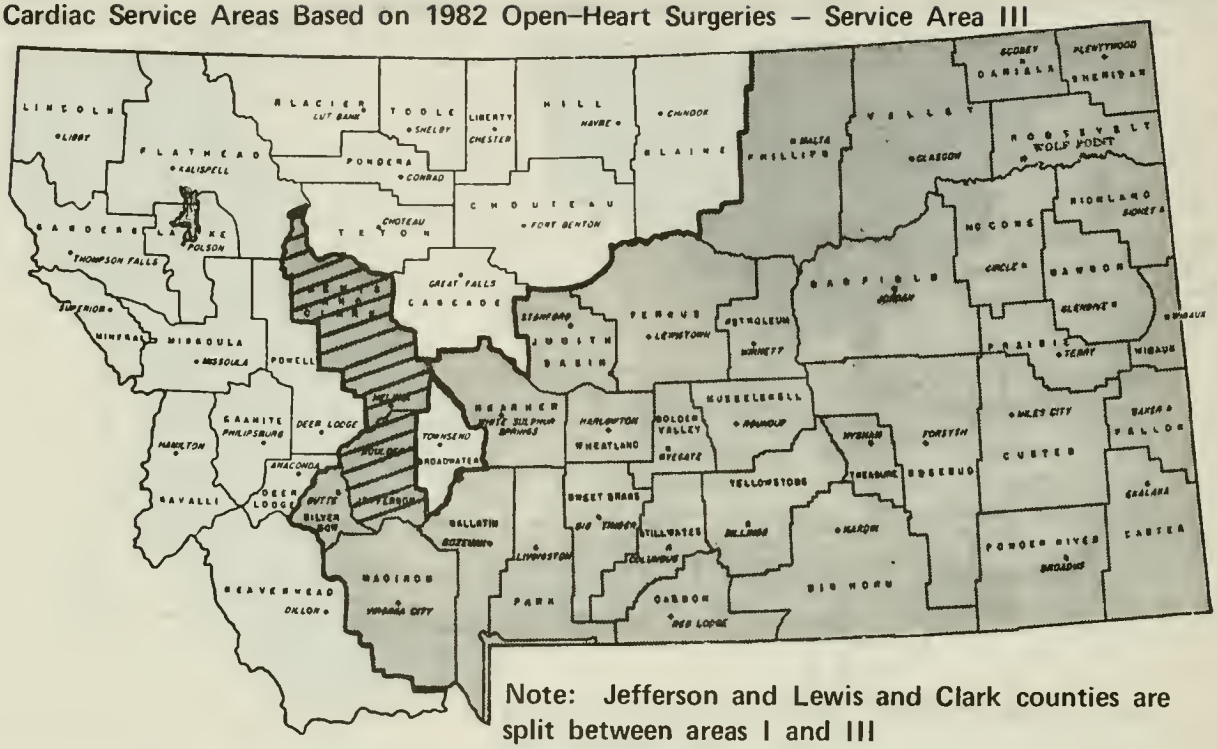
SOURCE: Montana Department of Health and Environmental Sciences.

Figure 3
Cardiac Service Areas Based on 1982 Open-Heart Surgeries – Service Area II



SOURCE: Montana Department of Health and Environmental Sciences.

Figure 4
Cardiac Service Areas Based on 1982 Open-Heart Surgeries – Service Area III



Note: Jefferson and Lewis and Clark counties are split between areas I and III

SOURCE: Montana Department of Health and Environmental Sciences.

Pediatric angiography and open-heart surgery are not currently available in Montana.

2.3 Cost

Cost data for open-heart surgery in Montana is not available. Recent studies report that although there are some differences in physician practices (number of tests used, etc.) the primary factor in hospital costs for open-heart surgery is the number of cases performed in the hospital per year[9,10]. Case volumes of 100 to 300 surgeries per year are needed to reach "efficient production" of heart surgeries. Somewhere around 400 cases per year there is a fixed cost increment, but this should not be a major cost factor overall. Cardiac angiography procedures show decreases in cost up to about 400 annual procedures and little real gain in economies of scale above that point.

3.0 Future Resource Requirements

3.1 Availability

The 1981 - 1982 patient origin study has been used to project the 1990 need for open-heart surgery services[11]. These projections are listed in Table 3 for each cardiac surgery service area of Montana. The projected numbers are based on a continuation of the 1982 open-heart surgery rate of 1.77 per 1,000 adults, 15 years or older. This estimate requires no change in the service area III trends, but considerable development in areas I and II. The data in Table 3 is for calendar year 1982 and, therefore, differs from Table 2 which is data reported on each hospital's fiscal year. Projections in Table 3 assume the out-of-state service areas will experience the same population growth rate as the service area in which they are served.

The maximum projected surgeries are more than an expected number. Changes in treatment choices, disease rates and continued out-of-state surgeries can be expected to reduce the actual number (see footnote 6, Table 3). The expected number is easily within the capabilities of existing surgery services.

Table 3
Projection of Open-Heart Surgery Procedures — Montana, 1990

	Service Area[a] I	II	III	State
1982 Surgeries for Montana Residents[b]	154	84	453	691
Out-of-State Surgery For Montana Residents - 1982[c]	212	110	73	395
TOTAL SURGERY FOR MONTANA RESIDENTS - 1982	366	194	526	1086
Ratio of 1990 to 1982 Population[d]	1.119	1.069	1.128	1.114
Maximum 1990 Montana Patient Surgeries	410	207	593	1210
Out-of-State Patient Surgeries - 1982[c]	5	3	129	137
Out-of-State Patient Surgeries - 1990	6	3	146	155
MAXIMUM SURGERIES IN MONTANA - 1990[f]	416	210	739	1365

[a]Cardiac surgery service areas.

[b]Surgeries coded under ICD9CM starting with 35 or 36.

[c]Total is reported data, but distribution is estimated.

[d]Estimate based on 1980 Census 1985 and 1990 DHES projections.

[e]Primary out-of-state service area in Northern Wyoming.

[f]This maximum assures the present surgery rate and no out-of-state surgeries. Changes in treatment choices, disease rates and continued out-of-state treatment can be expected to reduce the actual total well below the maximum. A total 30% below the maximum gives 291, 147, 517 and 955 surgeries for the three regions and state, respectively.

SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau, Patient Origin Study 1981-82.

Table 4 is also based on the 1981-1982 survey and presents similar information for cardiac catheterization services[12]. Out-of-state catheterizations are not included.

3.2 Accessibility

The only question of service accessibility is in the area of pediatric cardiology services. With these services not available in Montana, accessibility must be weighed against potential quality and cost considerations of serving a limited population and therefore operating a low volume service.

The Section on Cardiology of the American Academy of Pediatrics recommends that infants, children and adolescents with major heart disease should have access to a pediatric cardiologist. They further define pediatric cardiology diagnostic centers and set a level of 30,000 live births per year as a minimum for a center's service area[13]. Since Montana had only 14,121 births in 1980 (1979 to 1981 three year average), a pediatric cardiology diagnostic center may not be feasible in Montana at present.

3.3 Cost

Because of the high cost of cardiac angiography and surgery services, it is desirable to set a minimum number of procedures necessary to establish either service. If cost alone were the justification for this limitation it might be made somewhat flexible to accommodate accessibility consideration. There are, however, quality of care considerations which also influence the requirements of minimum standards.

3.4 Quality

There are at least two quality issues that must be taken into consideration in setting the standards for need for cardiac services. The first is the number of surgeries performed each year by an open-heart surgery unit. It has been recommended that at least 100 to 150 open-heart operations per year by a team is desirable to maintain an adequate standard of practice[14].

Table 4
Projection of Cardiac Catheterizations — Montana, 1990

	Service Area[a]			
	I	II	III	State
1982 Cardiac[b] Catheterizations in Montana Hospitals	640	294	1,012	1,946
Ratio of 1990 to[c] 1982 Population	1.119	1.069	1.128	1.114
1990 Projected Cardiac Catheterizations	716	314	1,142	2,172

[a] Cardiac surgery service areas.

[b] Procedures coded under ICD9CM starting with 372.

[c] Estimate based on 1980 Census and 1985 Department of Health and Environmental Sciences Projections.

SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau, Patient Origin Study 1981-82.

The second issue concerns the establishment of cardiac angiography services in hospitals where open-heart surgery services are either not justified or not planned. The National Guidelines for Health Planning[15] state that there should be no new cardiac catheterization units in facilities not offering cardiac open-heart surgery services. Recent developments in the use of cardiac angiographic equipment and procedures in treatment make this standard even more important. Risks associated with these procedures make it essential that they only be performed in a facility staffed and equipped to perform emergency open-heart surgeries[16,17].

This standard is not adopted in this plan, but all hospitals with cardiac angiography services should assure ready access to surgery services and should not perform coronary angioplasty without arrangements for immediate access to surgery services.

4.0 General Analysis

4.1 Alternatives and Issues

Based on economic and quality of care issues, standards for cardiac angiography and open-heart surgery are as follows:

Open-Heart Surgery Standards

(1) There should be a minimum of 150 open-heart procedures performed annually, within three years after initiation, in any institution in which open-heart surgery is performed for adults.

(2) There should be no additional open-heart units initiated unless each existing unit in the health service area is operating at a minimum of 400 surgeries per year and the new unit would not cause any existing unit in the service area to drop below 300 surgeries.

(3) Any open-heart surgery unit falling below 100 procedures per year in any year following their third year of operation should have a peer review for quality of care performed by a team authorized by

an appropriate national physician organization. In this case, an economic review should also be made by the hospital, physicians and third-party payers in the State.

Angiography Standards

(1) There should be a minimum of 300 cardiac catheterizations performed annually in any cardiac catheterization unit within three years after initiation.

(2) Any new cardiac catheterization services should meet the Inter-Society Commission for Heart Disease Resource standards[18].

(3) There should be no additional cardiac catheterization units opened unless the number of studies per year in each existing unit in the service area is greater than 500 and would not be reduced below 300 by the addition of the new unit.

(4) Any cardiac angiography service falling below 300 cardiac catheterizations per year after three years of operation should have a peer review for quality of care. In this case an economic review should also be made by the hospital, physicians and third-party payers.

(5) Cardiac angiography services without immediate access to cardiac surgery services must not offer or deliver cardiac angioplasty services.

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17. "Pulmonary Hemorrhage Associated with Ballon Flotation Catheters." Paulson, Donald M., et al. The Journal of Thoracic and Cardiovascular Surgery, Vol. 80, No. 3, September 1980, p. 453.

18. Report of the Inter-Society Commission for Heart Disease Resources, Optimal Resources for Examination of the Chest and Cardiovascular System, Circulation, Vol. 53, No. 2, February 1976, p. A-1.

RECOMMENDED CRITERIA AND STANDARDS FOR REVIEW

These standards are based on the preceding plan and are to be applied to review criteria established by law and rule and referenced below. All review criteria in MCA 50-5-304 and ARM 16.32.110 may be applied, but specific standards are established for the following:

1. Criterion (MCA 50-5-304 (1)(c)): The need that the population served or to be served by the services has for the services.

   Plan Standard: The guidelines presented in this plan will be used to evaluate need for the service and impact on other services.

2. Criterion (MCA 50-5-304 (1)(f)): The relationship and financial impact of the services proposed to be provided to the existing health care system of the area in which such services are proposed to be provided and the consistency of the proposal with joint planning efforts by health care providers in the area.

   Plan Standards: Proposals for an additional service (either cardiac angiography or open-heart surgery) must meet the guidelines of this plan and also show evidence that:

   (a) The added service will not significantly increase the total cost or charges for the service in the service area to be served.

   (b) If the proposal includes the addition of licensed beds, the service need could not be met at existing services without also adding beds.

3. Criterion (ARM 16.32.110 (2)(d)): That patients will experience problems including, but not limited to, cost, availability, or accessibility in obtaining inpatient care of the type proposed in the absence of the new service.

Plan Standard: Proposals for additional service (either cardiac angiography or open-heart surgery) must meet the guidelines of this plan and show evidence that:

(a) There will be significant advantages in convenience and quality of care resulting from improved patient access, produced by the additional service.

DIAGNOSTIC IMAGING AND RADIATION THERAPY

Diagnostic imaging within the context of this section of the plan refers to computerized tomography (CT), nuclear magnetic resonance (NMR) and therapeutic radiology (cobalt and linear accelerator services). Previous components in the Health Systems Plan (HSP) on diagnostic imaging also addressed ultrasound, nuclear medicine, and xeromammography. These and other types of therapeutic radiology and diagnostic imaging services are not precluded from this general component, rather current planning priorities have focused attention on the first three.

CT scanners and NMR units are used for diagnostic imaging whereas cobalt and linear accelerators are used for therapeutic purposes.

Diagnostic imaging and therapeutic radiology are expanding fields with significant future growth and development. Such new state of the art technology promises increased quality, efficiency and reduced risks associated with invasive procedures.

As with other medical services, accessibility, availability and quality will have to be balanced with the cost of such services; such an approach should provide equitably distributed and reasonably priced services within a context of controlled growth and expansion.

DIAGNOSTIC RADIOLOGY

(Computerized Tomography Scanners)

Goal:

To assure reasonable access by Montana residents to hospital specialty services while promoting the efficient use of health resources.

Action:

CT scanner services should only be established in hospitals with adequate caseloads of patients requiring CT services and medical radiologic staff to use the service effectively.

1.0 Background

1.1 Service Definition

Computerized Axial Tomography (CT) Scanner is defined as:

A computerized X-ray system which can produce cross-sectional pictures of the head or body, including pictures of organs or other parts of the body obscured in conventional X-ray photographs.

The CT scanner was first introduced in 1972 in England and has become a widely used diagnostic methodology.

1.3 Trends

The use of CT scanners for clinical purposes has replaced invasive procedures, such as pneumoencephalography cerebral angiography and radioisotope brain scanning.

Typically, full body scanners are now being installed and are replacing the head scanners that were first introduced.

2.0 Current Situation

2.1 Availability

There are twelve (12) approved full body scanners in Montana. They are located in Miles City, Billings (2), Bozeman, Butte, Helena, Great Falls (2), Havre, Kalispell and Missoula (2). The rural character of Montana has created a widely dispersed population with numerous cities, each having its own hospital; consequently, CT scanning services have been made available in these smaller hospitals.

The following have been developed as need criteria specific to Montana:

(1) The service region for a CT scanner is that geographic area in which the CT scanner is closer than any other CT scanner.

(2) An applicant is eligible for a CT scanner if, in addition to satisfying all other applicable criteria, the following criteria are satisfied:

(a)(i) There are 20,000 patient-days per year in the community in which the applicant is located; or

(ii) There are 15,000 patient-days per year in the community and 30,000 patient-days per year in the service region to be served by the applicant's CT scanner.

(b) Addition of applicant's scanner will not change adjoining service region boundaries so as to reduce adjoining service regions below 30,000 patient-days per year.

(c) Existing CT scanners in the same service region as the applicant are performing and will continue to perform at least 1,500 scans per year.

(d) Appropriately skilled physicians and appropriate facilities for providing medical care in areas of surgery, urology, oncology, gynecology, and other specialties which can make beneficial use of CT scanners are present in the community.

The authority for the above criteria (expressed in ARM 16.32.127) is found in 50-5-304, MCA.

2.2 Accessibility

There is at least one CT scanner in each of the five health planning regions in the state, giving patients access to a CT scanner within their own region. CT scanners are also available at all the major referral hospitals to provide diagnostic backup for tertiary services.

2.3 Cost

Costs for a CT scanner vary according to the initial cost of the unit, construction or renovation costs of the space housing the unit, and the maintenance and operating costs.

The initial acquisition costs for CT scanners in Montana range from approximately $800,000 to $1.5 million. The acquisition costs for CT scanners appear to have stabilized and used units are now available for purchase.

The cost of the scan varies depending upon the number of slices and type of scan (head or body).

New facilities are expected to provide 75 scans per 1,000 patient days or 1,500 scans per 20,000 patient days (see standards and criteria above). Facilities applying for a CT scanner but having less than 20,000 patient days could qualify for a scanner provided the cost per scan is less than $400 in the third year. Historical costs based upon the three most recent CT scanner applications indicate an average cost of $385 per scan with an average of 858 scans in the third year of operation. The cost per scan ($400 in the third year and 400 scans for a maximum investment of $500,000) would not preempt nor nullify the established criteria. The cost criteria would have to be consistent with the criteria for impact on other facilities. (CT scanners in the same service region as the applicant are performing and will continue to perform at least 1,500 scans per year.)

3.0 Future Resource Requirements

3.1 Availability

Availability for future use of CT scanners has been addressed under Section 2.1.

3.2 Accessibility (see 2.2).

4.0 General Analysis

4.1 Alternatives and Issues

CT scanning is an alternative to invasive diagnostic procedures. Present and future planning addresses the availability, accessibility and cost of CT scanning in Montana. (ARM 16.32.127)

CT scanning services are kept in balance with the need for availability and accessibility of CT scanning services in local areas.

CT Scanner Utilization Statistics

Facility	1977	1978	1979	1980	1981	1982
Holy Rosary Hospital Miles City	----	----	----	----	----	----
Billings Deaconess Hospital, Billings	----	----	----	----	436-head 315-body	1282-head 1063-body
Saint Vincent Hospital, Billings	----	----	----	----	929-head	2360-head/ body
Medical Arts Center, Bozeman	----	----	----	a	a	a
Columbus Hospital Great Falls	----	1144-head	1062-head 207-body	1291-head 289-body	1272-head 353-body	1040-head 567-body
Montana Deaconess Medical Center Great Falls	----	----	----	----	110-head & body-1 month	1263-head/ body
Northern Montana Hospital, Havre	----	----	----	----	----	----
St. Peter's Comm. Hospital, Helena[b]	----	----	----	----	----	199-head 147-body
St. James Comm. Hospital, Butte	----	----	----	----	240-head 3 months	908-head 499-body
St. Patrick Hospital, Missoula	----	1676-head	2342-head	2881-head	2663-head 219-body- 3 months	1466-head 2171-body
Missoula Community Hospital, Missoula	----	----	----	----	----	337-head
Kalispell Regional Hospital, Kalispell	----	----	----	----	----	445-body
Eastern Radiological Assoc. Billings[c]	843-head 123-body	934-head 115-body	1115-head 130-body (10 months) 1979 is equal to the 1980 Annual Survey			

---- No information (Units not yet in operation).

[a] Information not submitted.
[b] Unit opened 6-1-83, information for 7-1-83 through 10-31-83.
[c] Scanner was moved to St. Vincent.

SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau, Annual Survey of Hospitals and Medical Facilities, 1977-1982.

DIAGNOSTIC RADIOLOGY
(Nuclear Magnetic Resonance)

Goal:

To assure reasonable access by Montana residents to hospital specialty services while promoting the efficient use of health resources.

Action:

Approval of Nuclear Magnetic Resonance (NMR) unit(s) by the Department of Health and Environmental Sciences through the Certificate of Need process should be based upon federal Food and Drug Administration (FDA) approval of NMR units for clinical use to assure quality.

1.0 Background

1.1 Service Definition

Nuclear Magnetic Resonance (NMR) technology is defined as:

> ". . .medical devices for imaging, based on the principles of NMR spectroscopy and computerized tomography. A patient is positioned in a controlled homogeneous magnetic field and amidst minute radio frequency signals in response to a combination of short radio pulses and magnetic field gradients. The detected signals from the patient, NMR spectra, are reconstructed to produce a two-dimensional or three-dimensional NMR contour map. A typical application is NMR of hydrogen protons which produces two dimensional maps of relative hydrogen density distribution over the section being examined."[1]

Nuclear magnetic resonance devices are not new developments but have been used approximately the last thirty years for chemical analysis applications. Medical development and application have been more recent with use most evident in the last ten years.

1.2 Services and Settings

NMR devices are presently being tested and evaluated in clinical settings. The studies and trials have been conducted under the FDA Investigational Device Exemption (21CFR812), and NMR devices have now been approved by FDA for clinical usage.

1.3 Trends

The clinical use of NMR is the most recent development of diagnostic imaging since the CT scanner. State planning agencies will likely be receiving Certificate of Need (CON) proposals. The advantage of NMR devices and CT scanners is their non-invasive nature. Also, NMR does not employ ionizing radiation as does a CT scanner. Although the exact diagnostic parameters have not been set, NMR is expected to provide advantages

for some regions of the body -- imaging the brain, spinal canal, vascular system, lung, and mediastium -- and to distinguish between malignant and benign tumors. NMR has the capability of becoming the primary diagnostic device for multiple sclerosis due to its superiority over CT scanning. NMR capabilities point to potentially high usage.

2.0 Current Situation

2.1 Availability

There are presently no NMR Units in Montana. The NMR clinical units in other states have been experimental.

2.3 Cost

The costs to be considered for an NMR device include the initial cost of the unit, construction or renovation of space for housing the unit, and the maintenance or operating costs.

The capital cost of the NMR will vary with the type of magnet (permanent, resistive, or superconductive). The costs will vary from $700,000 to $2 million. Presently, it appears that manufacturers are marketing superconductive magnets; however, smaller hospitals may be able to buy less expensive systems.

Housing costs depend upon whether space is new or renovated -- local area costs may cause this estimate to vary -- and the type of magnet. Shielding for the magnets is required due to magnetic interference inside and outside the facility. This shielding is needed for both the magnetic fields and radio frequency fields. Permanent magnets have a field with a three (3) foot radius, a resistive magnet has a field with a twenty-one (21) foot radius, and a superconductive magnet has a field with a sixty-seven (67) foot radius. Three hundred (300) square feet are required to house the permanent magnet, eight hundred and fifty (850) square feet for the resistive magnet, and fifteen hundred (1,500) square feet for the superconductive magnet.[2]

Construction cost estimates range from $10,000 to $2 million and take into account the type of magnet (permanent, resistive or superconductive) and type of construction (renovation or new). Housing costs may vary due to their type and may include mobile units, freestanding, modular, and/or custom designs.

Maintenance and operating costs also vary according to the type of magnet.

-- Permanent magnets do not use power and have no minimum maintenance. (Its image quality is inferior to the other types but future developments may make it competitive).[3]

-- The resistive magnet uses a continuous electric current of 50 kilowatts and costs $10,000 to recharge if power is interrupted. Water can be used to cool the resistive magnet but is required at the rate of two tons per hour.

-- The superconductive magnet may be cooled by liquid nitrogen and helium which are costly.

-- Operating costs range from $2,000 to $6,000 monthly.[4]

3.0 Future Resource Requirements

3.1 Availability

Predictions for the future use of NMRs vary depending upon the growth in development. The predictions take the following forms:

(a) One NMR for two CT scanners in tertiary hospitals, 1985.
(b) One NMR for one CT scanner, 1990.
(c) Two hundred to four hundred units installed in 1984 depending upon FDA approval.
(d) Installation restricted to major medical centers.

Annual growth is expected to be more definite with an estimate set at 12% per annum.[5]

3.4 Quality

No NMR unit should be made operational before FDA clinical approval. NMR units must meet FDA established clinical criteria.

4.0 General Analysis

4.1 Alternatives and Issues

NMR devices are alternative to invasive diagnostic procedures.

Present planning should address the availability, accessibility and cost of NMRs in order to establish the viability for such a service in Montana. Avoidance of excess services would be most cost-effective and contribute to the availability and accessibility of other medical services.

Multi-hospital sharing of NMR units is being done in other states and should be encouraged in Montana. In addition, multi-hospital sharing is supported by priority number 5 of the National Health Priorities, Public Law 96-79:

> (5) The development of multi-institutional arrangements for the sharing of support services necessary to all health service institutions.

A set of guidelines has been developed. The guidelines are temporary due to the developing nature of NMR technology and should be revised as NMR technology potential is realized and its capabilities accurately assessed and implemented in Montana.

GUIDELINES

1. The first priority of NMR unit(s) is to provide patient care. However, if possible, the first units should be available to train technicians.

2. Due to safety reasons, some patients cannot be scanned. Critical patients, highly instrumented patients, and those with metal implants and pacemakers should not be scanned.

3. Access to NMR unit(s) should be available twenty-four (24) hours a day, seven (7) days a week, on an emergency (on-call) basis. NMR unit(s) should also be scheduled to avoid excessive backlog of cases.

4. Facilities with NMR units must report basic utilization data (e.g., age specific patient origin by diagnostic category) and cost data to the Montana Department of Health and Environmental Sciences.

5. The projected total cost of the unit should include: cost of the unit, renovation and construction costs, upgrading of machines, maintenance, utility usage, downtime, costs of related comparison studies with other known modalities, and personnel costs including consultants.

6. In terms of qualifications, persons supervising the operation of NMR scanners should be physicians. These physicians should have enough training in imaging to determine which diagnostic imaging modality is most appropriate for each patient.

7. The initial installation of an NMR unit(s) should be affiliated with an institution where other imaging modalities (e.g., CT scanner, nuclear medicine, and ultrasound) are available for comparative studies.

8. Projected utilization data are only to be considered estimates at this time.

These guidelines are based upon NMR Review Criteria and Guidelines provided by the Division of Health Systems Planning of the State of Nebraska[6] and the Central Arizona Health Systems Agency[7].

REFERENCES

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2. Program Information Letter, U.S. Department of Health and Human Services, Office of Health Planning, August 9, 1983.

3. Hospitals, "Competition Thrives Among NMR Manufacturers", November 1, 1983, p. 73.

4. See reference 2.

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6. NMR Review Criteria, State of Nebraska, Division of Health Systems Planning, November, 1983.

7. Guidelines for the Introduction of Nuclear Magnetic Resonance (NMR) Technology, Central Arizona Health Systems Agency, October, 1983.

THERAPEUTIC RADIOLOGY

Goal:

To assure reasonable access by Montana residents to hospital specialty services while promoting the efficient use of health resources.

Objective:

To continue through 1990 to meet needs for radiation therapy services and maintain an integrated cancer treatment system.

Action:

Certificates of Need for expansion or addition of radiation therapy equipment should be approved only when service area need is established and there are assurances of adequate personnel to delivery the services.

1.0 Background

1.1 Service Definition

Radiation oncology is a medical specialty which treats patients with cancer (and other tumors and neoplasms) with ionizing radiation. This form of radiation, of various intensities, inhibits cell division and kills the tumor. Radiation oncology is part of a multidisciplinary approach which also includes surgical oncology and medical oncology.

Radiation therapy has as its goals cure and/or palliation. Radiation therapy is delivered by several technologies with different types of equipment:

(a) superficial X-ray therapy. This is produced by a conventional X-ray machine which generates up to 150 kilovolts (1 kilovolt equals 1,000 volts and is abbreviated as KV) and is utilized for radiation of superficial lesions such as skin cancer.

(b) orthovoltage X-ray therapy. This is also known as "deep therapy." It is produced electronically and generates from 150 to 250 KV. X-rays produced by orthovoltage equipment have deeper penetration (greater depth dose) into human tissues than the superficial therapy equipment described above.

(c) megavoltage (supervoltage) therapy. This therapy is derived from high energy radiation in excess of 1,000,000 volts (megavolts or MEV) which can be produced by several means. Radiation emitted by high energy sources in the megavolt range offers advantages over the lower energy radiation in that the skin of the patient is affected to a lesser extent by the radiation beam, a greater depth dose may be attained, the scatter of the therapeutic beam is diminished, and absorption of the beam by the patient's bones is reduced.

The high energy radiation for megavoltage therapy can be produced by particle accelerators or from isotope sources.

Particle Accelerators generate a high energy electron beam which itself may be used for therapeutic purposes. Usually, however, the electron beam is used to bombard a metal target within the device which then emits high energy X-rays.

Linear accelerators are available in three levels:[1]

(1) low energy medical linear accelerators -- typically, rotational, gantry mounted 4 to 6 MEV photon units without electron therapy capabilities.

(2) medium energy medical linear accelerators -- provide an X-ray therapy beam at 8 to 10 MEV and have electron therapy capability at a series of energies up to about 12 MEV (electron). "There is a trend towards higher energy X-ray and electron therapy capabilities in new 'dual model' X-ray/electron therapy medical linear accelerators which, otherwise, have reliability and technical support requirements similar to the 8 or 10 MEV medium energy linacs."

(3) High energy medical linear accelerators -- provide X-ray and electron therapy capabilities to energies of 18 to 25 MEV or more and require substantial technical resources for safe and reliable utilization of their full capabilities.

Isotopes sources are also used in megavoltage therapy. Radioactive Cobalt (Co^{60}) emits Gamma rays, equivalent in energy to about the average energy spectrum from a 3 MEV peak potential X-ray source.

Radiation Applied Internally

Radium, radon, and artificially created radionuclides may be used for therapeutic purposes by implanting the radioactive material in the patient's body. The two types of implantation therapy are:

(a) intersitial therapy: Treatment by placement of radioactive isotopes enclosed in a suitable container which is inserted into and through layers of tissue, and

(b) intracavity therapy: Treatment by temporary placement of a radioactive isotope enclosed in a suitable container which is inserted into a natural orifice or cavity of the body.

1.2 Services and Settings

Radiation therapy can be provided in either an inpatient or an outpatient setting. Approximately 11% of the procedures from 1980 through 1983 were done inpatient and 89% were done outpatient. Montana has five hospitals and two freestanding centers providing radiation therapy.

1.3 Trends

Linear accelerators are becoming the dominant modality due to their technical advantages, greater control and versatility. Of the 36,713 radiation therapy treatments done in 1983, 23,417 (63.8%) were done with linear accelerators.

2.0 Current Situation

Montana has a tumor registry which has been established since 1979 and is located within the Department of Health and Environmental Sciences.

The Montana Tumor Registry is designed to: 1) provide a lifetime follow-up of tumor patients, 2) allow medical professionals to retrieve important data to analyze diagnostic patterns, treatment results, occurrence patterns and survival data for Montana cancer patients, and 3) provide current information and education to medical professionals for continual improvement of cancer patient care.

The Registry collects, abstracts, codes and analyzes cancer information about Montana. This is accomplished through a hospital-based system.

The Registry is a member of the Rocky Mountain Cancer Data System (RMCDS). Information is processed by the RMCDS, and in addition, Montana is able to participate in a nationwide cancer patient surveillance program which

provides information for research into the causes, treatment and prevention of cancer.

The Registry is necessary for the establishment of population-based information about cancer.

The cancer death rate for 1982 in Montana was 176/100,000 compared to the U.S rate of 191/100,000.[2] The incidence of cancer for 1984 in Montana is 2700 new cases, and 870,000 new cases in the United States. This is an incidence rate of 343/100,000 in Montana and 376/100,000 in the U.S.[3]

2.1 Availability

There are presently seven locations providing radiation therapy in Montana. These are:

1. Columbus Hospital - Great Falls
2. Central Montana Hospital - Lewistown: This unit was donated to St. James Community Hospital in Butte.
3. Northern Rockies Cancer Treatment Center - Billings
4. St. James Community Hospital - Butte
5. Bozeman Deaconess Hospital - Bozeman
6. St. Peter's Hospital - Helena
7. Western Montana Regional Cancer Center - Missoula

The facility at the Central Montana Hospital in Lewistown merely has an orthovoltage unit for the purpose of superficial treatment; St. James, Bozeman Deaconess and St. Peter's Hospitals only have COBALT-60 units. Table 1 shows the utilization and type of unit at each facility.

2.2 Accessibility

Access to radiation therapy follows a regional pattern. Due to the predominantly outpatient nature of radiation therapy and its delivery method, patients can travel outside their community to receive treatments.

Table 1
Total Radiation Therapy Treatments[a]

	Facility								Totals	
	Columbus	Cent. MT	Northern Rockies Cancer Trt. Ctr.	St. James[b]	Bozeman Deac.	St. Peters	Western Mont. Reg. Cancer Ctr.	Cobalt	Linac	Other
1983										
Cobalt	2772		552	2956	900[c]	622		7802		
Linac	9739		8464				5214		23417	
Other	802	37			4600[c]					5439
1982										
Cobalt	3430		309	1501	900[c]	636		6776		
Linac	11433		8359				6978		26770	
Other	1115	20			4600[c]					5735
1981										
Cobalt	3761		698	1438	900[c]	881	4261[d]	11939		
Linac	14246		7417						21663	
Other	1241	20			4600[c]	19	70			5950
1980										
Cobalt	3907		741	1872	900[c]	729	5575	13724		
Linac	13521		7446						20967	
Other	1114	39			4600[c]	46	60			5859
Cobalt	13870		2300	7767	3600	2868	9836	40241		
Linac	48939		31686				12192		92817	
Other	4272	116			18400	65	130			22983

[a]Total Inpatient and Outpatient Procedures

[b]St. James Hospital in Butte received Certificate of Need approval for a linear accelerator in August, 1984.

[c]Estimate

[d]St. Patrick Hospital = 1980, 1981

SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau, Annual Survey of Hospitals and Medical Facilities.

If a patient lives more than fifty miles from the treatment center, an overnight stay may be necessary.

Figure 1 indicates the service areas for the various therapy units. These catchment areas are based upon interpretations of patient patterns derived from hospital patient origin statistics.

2.3 Cost

Radiation therapy procedures are reimbursed by third-party payors. However, cost of travel and lodging are paid by the patient.

Treatment time usually takes from four to five weeks; hence, if a patient lives more than 50 miles from the center, overnight stays may be required.

A treatment may require 20 to 25 procedures on the average. The average cost per procedure may vary according to the type of procedure, and total cost to the patient may vary according to the number of procedures, travel costs, physician fees, and other treatment related and service related variables.

3.0 Future Resource Requirements

3.1 Availability

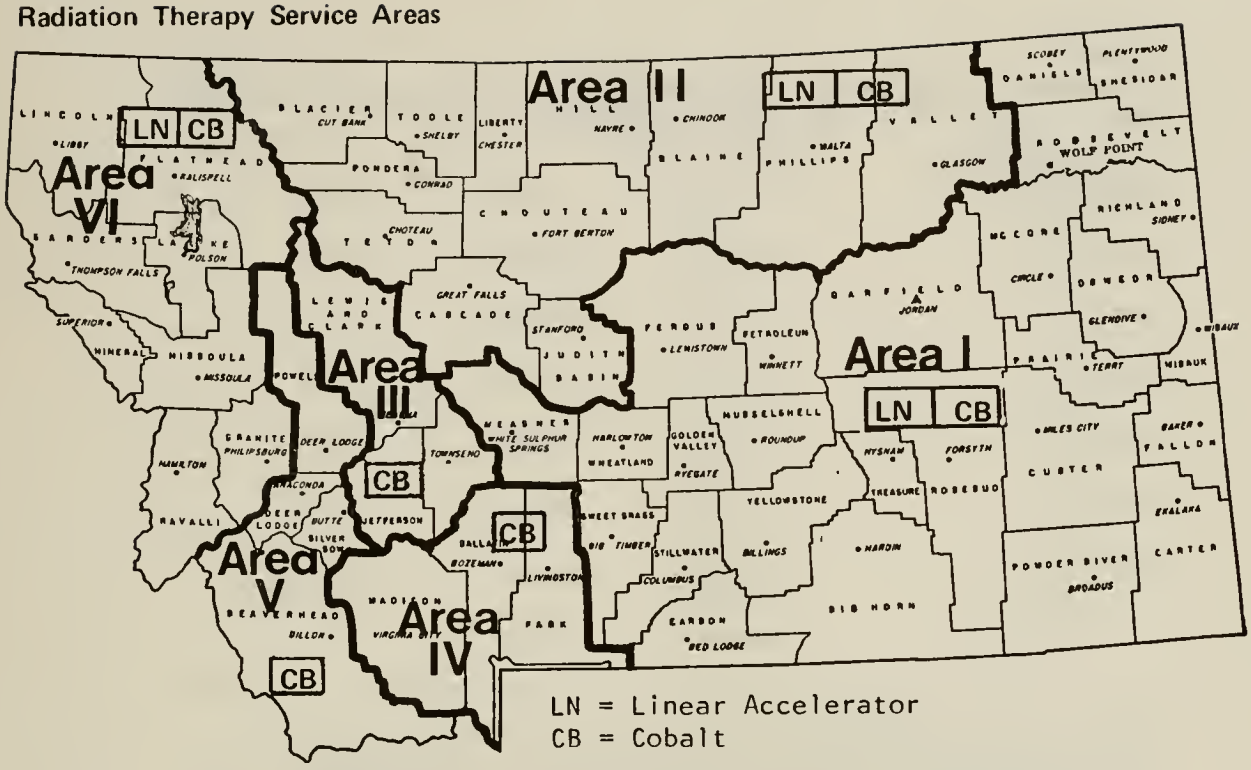
It is estimated that the number of radiation therapy procedures will increase approximately 11% between 1983 and 1990 (see Table 3).

4.0 General Analysis

4.1 Alternatives and Issues

The existence of national criteria and guidelines[4] for radiation oncology is recognized and appreciated in Montana. As the guidelines themselves state, strict adherence to numerical guidelines may be mitigated by specific factors such as geographic accessibility and demographics.

Figure 1
Radiation Therapy Service Areas



SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau, Annual Survey of Hospitals and Medical Facilities-1982, and Patient Origin Study-1979.

Table 2
Radiation Therapy Service Areas: 1980-1990[b]

Service Area	POPULATION 1980	1990	Ratio
Area I	242,247	286,100	1.18
Area II	161,773	173,779	1.07
Area III	53,335	60,650	1.14
Area IV	61,248	74,284	1.21
Area V	65,754	60,682	.93[a]
Area VI	202,333	236,197	1.17
State Total	786,690	891,692	

[a]Area V which represents Butte (Silver Bow County) has qualitative considerations which this ratio may not represent, i.e., a higher than average rate for cancer and a significantly greater number of elderly 65+. Future growth for radiation therapy may be masked by this ratio.

[b]Designation of Radiation Therapy Service Areas is based upon general discharges for acute care hospitals with radiation therapy due to lack of specific information.

NOTE: According to Montana Vital Statistics, 1980, Montana Department of Health and Environmental Sciences, the 1980 cancer rate for Silver Bow County was based on 520 cases for a rate of 1,365 per 100,000 population. The Montana 1980 cancer rate was based on 6,625 cases for a rate of 842 per 100,000 populaton.

Based on 1984 Montana Population Projections, the 1985 population of the 65+ age group for Silver Bow County comprises 18.3% of the projected total county population (i.e., 6,085 of 33,221). The 1985 population of this same age group for Montana comprises 10.9% of the projected total state population (i.e., 90,855 of 831,951).

SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau.

Table 3
Estimated 1990 Radiation Therapy Procedures

Service Area	Ratio	1983 Procedures[a]	1990 Procedures
Area I	1.18	9,016	10,639
Area II	1.07	12,511	13,387
Area III	1.14	622	709
Area IV	1.21	900	1,089
Area V	.93	2,956	2,749[b]
Area VI	1.17	5,214	6,100
STATE TOTAL		31,219[c]	34,673

[a] Includes only cobalt-60 and linear accelerator procedures.

[b] St. James was approved for a linear accelerator in August, 1984, and also will continue to use the Cobalt-60 unit. Utilization for Area V should increase due to recovery of patients presently being treated at other facilities, i.e., those with linear accelerators. This should mean an approximate 20 percent increase in the number of cases treated at St. James -- indicating 3,695 cases in 1983 and 3,436 cases in 1990.

[c] Central Montana Hospital (Lewistown) excluded.

SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau.

While most of Montana's radiation therapy centers are meeting the minimum standards for procedures -- 6000 treatments/year per megavoltage unit -- some exceptions should be recognized to meet the geographical, demographic and physician-patient relationship needs necessary in a delivery system for radiation oncology.

REFERENCES

1. The Blue Book, "Criteria for Radiation Oncology in Multidisciplinary Cancer Management," p. 22.

2. Montana Vital Statistics, 1981; Department of Health and Environmental Sciences.

3. Cancer Statistics, 1984; January/February, 1984, Vol. 34, No. 1, American Cancer Society.

4. See reference 1.

APPENDIX 1

Cancer Death Rate[a] – Regional and State

Regional and State Totals

Location	1980	1981	1982	TOTAL
Region 1	164	186	178	582
Region 2	210	240	254	704
Region 3	256	288	276	820
Region 4	320	340	357	1017
Region 5	341	289	319	949
STATE TOTAL	1291	1343	1384	4018

Regional[b] and State Rates/100,000

Location	1980	1981	1982	TOTAL
Region 1	167	190	181	179
Region 2	146	167	177	164
Region 3	160	180	172	171
Region 4	173	183	193	183
Region 5	171	145	160	158
STATE TOTAL	164	171	176	170

[a]Rate per 100,000

[b]Regions = Governor's Health Planning Regions

SOURCE: Montana Department of Health and Environmental Sciences, Bureau of Records and Statistics, Montana Vital Statistics, 1980, 1981, 1982.

APPENDIX 2

Radiation Therapy Equipment

	Type of Equipment			
Location	Megavoltage	Teletherapy	Orthovoltage	Superficial
REGION I	--	--	--	--
REGION II				
Columbus	20 MEV	Cobalt 60	X	X
REGION III				
Northern Rockies	12 MEV	Cobalt 60		X
Cent. MT			X	
REGION IV				
St. James	12 MEV	Cobalt 60		
Bozeman Deac.		Cobalt 60	X	X
St. Peter's		Cobalt 60		
REGION V				
Western Mont. Reg.	12 MEV	Cobalt 60		

SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau.

END STAGE RENAL DISEASE (ESRD)

Goals:

A. ESRD treatment should be available to Montana residents.

B. Encourage the use of home dialysis and transplantation by the maximum practical number of ESRD patients who are medically, socially and psychologically suitable candidates for such treatment.

Objectives:

1. Monitor and evaluate trends in the use of home dialysis and transplantation by ESRD facilities to determine the proportion of all dialysis patients who are dialyzed in the home at yearly intervals. The proportion of dialysis patients who are dialyzed in the home should be at least 50 percent by 1988.

2. Monitor patient access to all treatment modalities. Assure that patients are informed of and participate in the selection of their treatment modalities.

3. Increase public awareness regarding transplantation and the need for organ donation.

C. To assure the quality and appropriateness of patient care.

Objective:

1. Conduct, in collaboration with the End Stage Renal Disease Network Coordinating Council #2 (ESRDNCC #2), ongoing assessments of patient care delivery.

D. To encourage the maximum level of patient participation in the ESRD system.

Objective:

1. Monitor ESRDNCC #2's grievance procedure mechanism which is available to patients in each facility and include an appeals process at the Network level.

E. Montana ESRD facilities should participate in a Network-based patient registry that permits continual and consistent assessment of the national ESRD patient population for improving program and policy decision-making.

F. Continue to encourage the proper distribution of ESRD services while maintaining quality of care and monitoring program costs through rational planning at the state level.

G. Montana State Health Planning and Development Agency (MSHPDA) and the Montana Health Systems Agency (MHSA) should continue coordinated planning with ESRDNCC #2.

1.0 Background

In 1972, the United States Congress, in recognition of the exceedingly high costs of ESRD treatment that often deplete the financial resources of ESRD victims and their families, extended Medicare benefits to individuals suffering from end stage renal disease. This legislation makes ESRD the only disease category singled out for inclusion in the Medicare Program (Section 2991 or P.L. 92-603).

Today, Medicare helps cover the cost of dialysis treatment and transplant services for persons or dependents of persons who meet Social Security insured status. For example, as of December 31, 1983, 93.0 percent of ESRD patients in Montana had Medicare coverage and 5.0 percent had applications for coverage pending. Only 2.0 percent of patients did not have Medicare coverage. Table 1 shows the number and percent of Medicare versus non-Medicare dialysis patients residing in Montana.

To help achieve coordinated delivery of ESRD services, representatives of hospitals and health facilities serving dialysis and transplant patients in each area of the country are brought together with patients, physicians, nurses, social workers, dietitians and technicians into a network system.

Currently the nation is divided into 32 separate areas (Figure 1). Each area has a Network Coordinating Council (NCC) consisting of representatives of each ESRD treatment facility in the area and of the professionals involved in ESRD care. Montana State is in NCC #2. Other states included in NCC #2 are Alaska, Idaho, Oregon and Washington.

The Network Coordinating Council #2 is charged under Section 2991 of P.L. 92-603 with assuring the availability of all appropriate services to end stage renal disease patients in the Network area; estimating future needs for ESRD services and facilities; and the review and recommendation on proposals for new or changed ESRD services in its area.

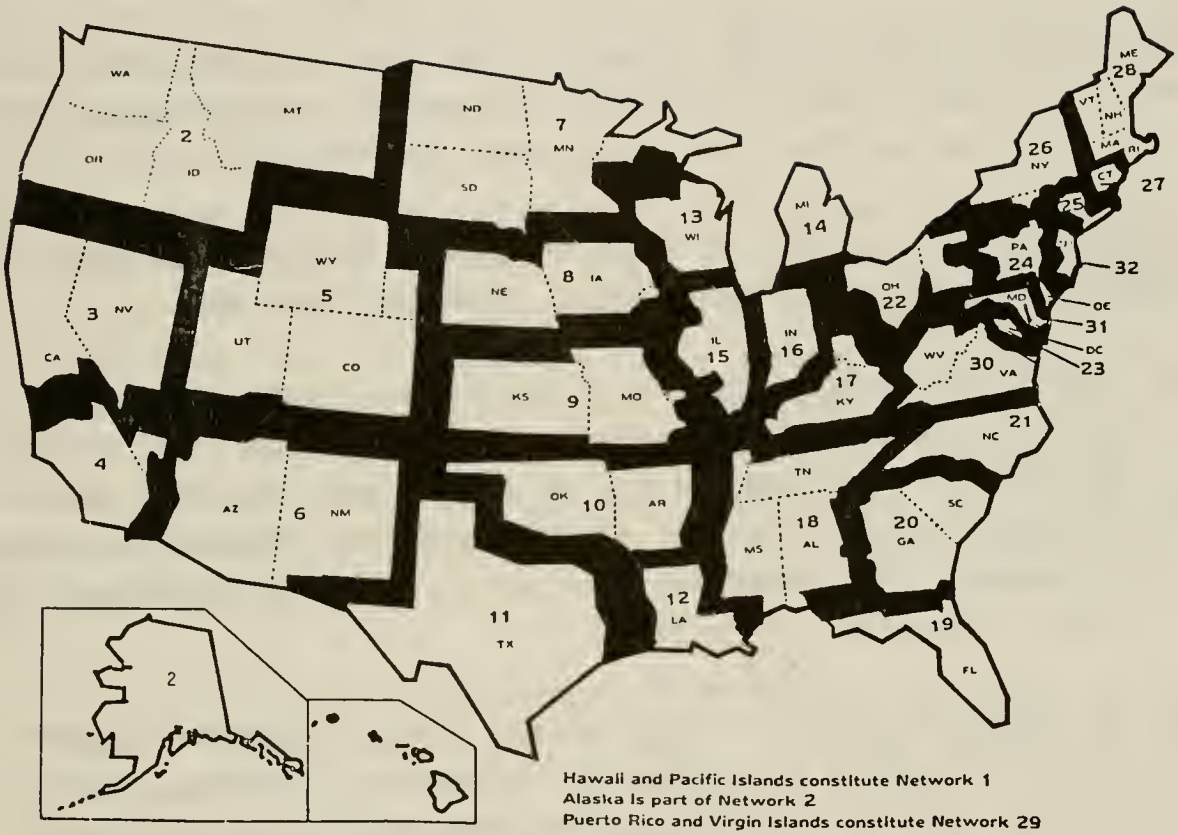
The Bureau of Health Planning and Resource Development of the State Department of Health and Environmental Sciences has specific responsibilities to

Table 1
Number and Percent of Medicare vs. Non-Medicare Dialysis Patients Residing In Montana and Followed by ESRD Network Coordinating Council Number Two Facilities as of 12/31/83

	Enrolled In Medicare		Patients With Medicare Application Pending		Patients Non-Medicare	
Facility	Number	Percent	Number	Percent	Number	Percent
Northern Rockies Kidney Center	69	93.2	3	4.0	2	2.7
Columbus Hospital	27	93.0	2	7.0	0	
St. Patrick Hospital	48	94.1	3	5.9	0	
St. Peter's Hospital	11	84.6	1	7.7	1	7.7
STATE TOTAL	1SS	92.8	9	5.4	3	1.8

SOURCE: Network Coordinating Council #2 Data System.

Figure 1
ESRD Network Areas



SOURCE: Network Coordinating Council #2 Data System.

review and approve/disapprove recommendations on proposals for new or changed ESRD services and facilities in the state.

1.1 Service Definition

End Stage Renal Disease (ESRD) refers to that state of renal impairment which is virtually always irreversible and permanent and requires dialysis or kidney transplantation to ameliorate uremic symptoms and maintain life.

An ESRD facility is a facility which is approved to furnish at least one specific end stage renal disease service. Such facilities are:

(a) Renal Transplantation Center: A hospital unit which is approved to furnish directly transplantation and other medical and surgical specialty services required for the care of end stage renal disease patients, including patient dialysis furnished directly or under arrangement. (No transplant services are available in Montana and none is projected prior to 1990.)

(b) Renal Dialysis Center: A hospital unit which is approved to furnish the full spectrum of diagnostic, therapeutic (including inpatient dialysis furnished directly or under arrangement), and rehabilitative services, except renal transplantation, required for the care of ESRD dialysis patients.

(c) Renal Dialysis Facility: A unit which is approved to furnish dialysis service(s) to end stage renal disease patients.

Kidney dialysis is a process by which dissolved toxic impurities are removed from a patient's body by diffusion from the blood across a semi-permeable membrane into a dialyzing fluid -- the dialysate. There are two commonly-used forms of dialysis: hemodialysis and peritoneal dialysis. Both generally require use of a machine, a chemical solution (dialysate), and a membrane through which toxins diffuse from blood to dialysate. Both forms of treatment can be carried out either in a facility or at home.

Hemodialysis requires connection of the patient to an artificial kidney machine for three to six hours, usually three times weekly. Blood is circulated through an artificial kidney, and accumulated toxic products and excess fluid are removed from the blood before its return to the body. Using an artificial kidney to replace kidney function, some patients have been maintained alive as productive members of society for more than eighteen years.

Peritoneal dialysis is a slower dialysis process, using the peritoneal membrane lining the abdominal cavity as a semipermeable membrane, with toxins diffusing from capillaries lining this membrane into dialysate introduced into the peritoneal cavity through a permanently implanted abdominal catheter. Daily treatment is required plus overnight exchanges for ten to fourteen hours, using special equipment. Peritoneal dialysis is well tolerated by many patients, and is particularly useful in the elderly and patients with cardiac disease. It also is particularly suitable for home dialysis.

Dialysis, which for the treatment of end stage renal disease is known as chronic or maintenance dialysis, may be performed according to Federal Regulations, in any of three settings: at a Renal Dialysis Center [a hospital-based unit approved to furnish the full spectrum (except renal transplantation) of diagnostic, therapeutic and rehabilitative services required by end stage renal disease patients]; at a Renal Dialysis Facility which need not offer inpatient dialysis and may not normally provide the full spectrum of care for other diseases from which an end stage renal disease patient may suffer; or at home, where a family member or a paid helper assists the end stage renal disease patient with maintenance dialysis. Any other needed services are provided in a facility or hospital.

Chronic maintenance dialysis is dialysis which is regularly furnished on an outpatient basis to an end stage renal disease patient (at any level of patient involvement in either a hospital-based, non-hospital-based setting, or home dialysis). Both hospital based and non-hospital-based facilities may provide either self-care with patients involved in their own care or limited care dialysis without patient involvement.

Inpatient dialysis is dialysis which, because of medical necessity, is furnished to an end stage renal disease patient on a temporary inpatient basis in a hospital.

Another recent dialysis service, in-center self-dialysis, has been advocated by some physicians and Department of Health and Human Services (DHHS) personnel. Because of legal problems and lack of clear definition with this mode of care delivery, it is still under study and has not been widely adopted in the State of Montana.

Chronic ambulatory peritoneal dialysis, another recent dialysis service, has received wide recognition and is now a standard form of treatment for end stage renal disease.

Continuous Ambulatory Peritoneal Dialysis (CAPD) utilizes a plastic catheter implanted into the abdominal cavity. The patient performs three to five exchanges a day, seven days a week. Fluid is run into the patient's abdomen from a 2-liter plastic bag of the dialysate. This plastic bag is then rolled up and worn by the patient for four to six hours. After this time interval, the fluid, which now contains the toxic wastes and excess water, is drained from the abdominal cavity into the same plastic bag. The plastic bag is then discarded and replaced with a new bag of dialysate. Thus dialysis is performed continuously at home by the patient during normal daily activities. CAPD may provide a less costly alternative to in-center and home dialysis but it is a relatively new technique.

Self-care dialysis training is a program which trains end stage renal disease patients or their helpers, or both, to perform self-care dialysis.

Organ procurement is the process of acquiring donor kidneys and includes locating, harvesting, preserving and transporting donated kidneys to a transplant center.

For many stable end stage renal disease patients, home dialysis appears to be the preferred method of treatment. Home dialysis offers the patient the best treatment modality for a productive and meaningful life by maintaining

the patient within his normal social environment and promoting his independence from illness-oriented hospital environment.

However, not all patients are candidates for home dialysis. Those persons living alone or without family support (physical, emotional, psychological and intellectual), as well as those who are too ill to manage at home, are not good candidates for home dialysis. When both patient and partner work full time, center dialysis may be more convenient and less time-consuming. If patient or partner has to quit work or work part time, it may not be economically feasible or desirable to be on home dialysis if a center is conveniently located. Therefore, facilities providing chronic services need to be made available.

To complement the above dialysis services, in-hospital dialysis is also provided for hospitalized end stage renal disease patients at ESRD-approved facilities and may additionally be furnished, on an emergency basis, in non-ESRD-approved facilities. As yet DHHS has no formally established policy regarding the extent of reimbursable use of non-ESRD-approved facilities by hospitalized ESRD patients, but such a policy is forthcoming. Kidney dialysis may also be provided on an acute basis, e.g., for patients with acute reversible renal failure. Under such circumstances, kidney dialysis is not considered a part of the Medicare ESRD program.

The capacity of a facility or center to perform chronic dialysis is determined by the number of stations it operates. This number is regulated by the State Health Planning and Development Agency through the Certificate of Need process and by the federal government (Health Standards and Quality Bureau) which approves each facility's stations for reimbursement through the Medicare ESRD program.

Under P.L. 92-603, ESRD services are coordinated nationally and are monitored for cost and quality by means of Network Coordinating Councils.

1.2 Services and Settings

There are four principal services which must be available for the treatment of end stage renal disease:

1. kidney transplantation,
2. histocompatibility testing,
3. organ procurement, and
4. kidney dialysis.

Kidney transplantation involves the surgical grafting of a new kidney into the patient. The grafted kidney may be obtained from a relative (related donor transplantation), in which case the operation is an elective procedure without the patient necessarily requiring a long period of dialysis beforehand. More often, a kidney must be obtained from a recently deceased donor (cadaveric transplantation) and, because of continuing shortage of donor kidneys, a patient may have to wait on dialysis for months or years before a compatible cadaveric organ becomes available.

Histocompatibility testing, or tissue typing, involves complex typing of cells from both potential donor and recipient in order to determine compatibility for successful transplantation. For services 3 and 4, see service definitions.

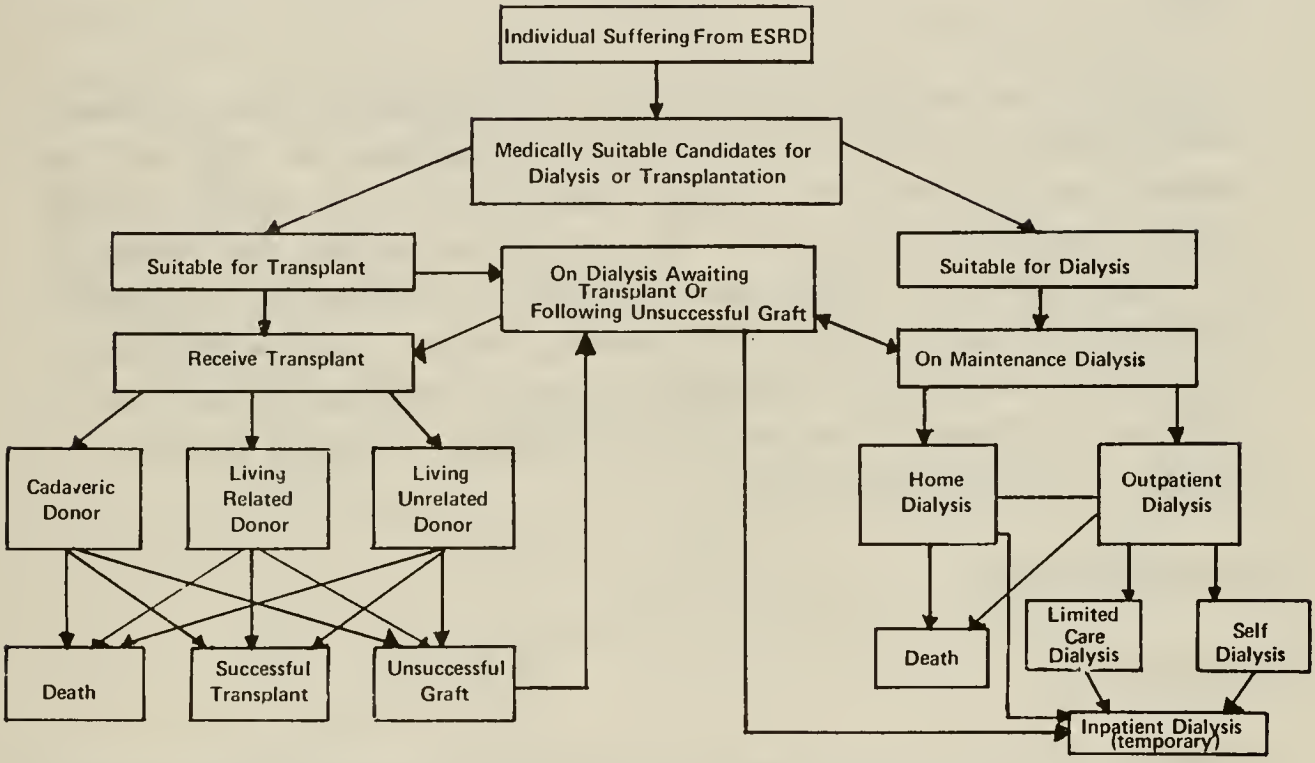
Movement Through the ESRD Treatment System

Figure 2 shows how a patient can move through the system of dialysis and transplant alternatives. When a patient enters the ESRD Network, the evaluating physician must determine whether he/she is suitable for transplant or dialysis. The age and health status of the patient and the availability of a compatible donor are considered. Where a living related donor is not available, transplant patients would receive a kidney from a cadaveric donor. An unsuccessful transplant can result in death or in a return to dialysis. The pool of dialysis patients, therefore, includes:

-- patients not suitable for transplant,
-- patients suitable for transplant and awaiting a suitable donor,
-- patients whose transplants were unsuccessful, and
-- patients suitable for transplant but who do not elect that procedure.

Patients selected for dialysis are evaluated for their suitability for in-center or home dialysis. Geographic access, life style, health status

Figure 2
ESRD Patients Within the System of Transplant and Dialysis Therapy



SOURCE: Montana Health Systems Agency, Health Systems Plan 1981-84.

and psychological and social factors are considered. In addition, physician preference, reimbursement patterns, and the availability of treatment alternatives are also important factors in determining treatment site.

1.3 Trends

Congress created the ESRD Program in P.L. 92-603, Social Security Amendments of 1972. Section 2991 provides that treatment for ESRD will be covered under Medicare for a broad range of persons covered by Social Security regardless of age. When the program was enacted, the Department of Health, Education and Welfare recognized that setting up the program would take time and therefore established a "freeze" to prevent the admission of new facilities to the Medicare program pending the adoption of adequate "conditions of coverage" which suppliers of service must meet to qualify for Medicare reimbursement.

2.0 Current Situation

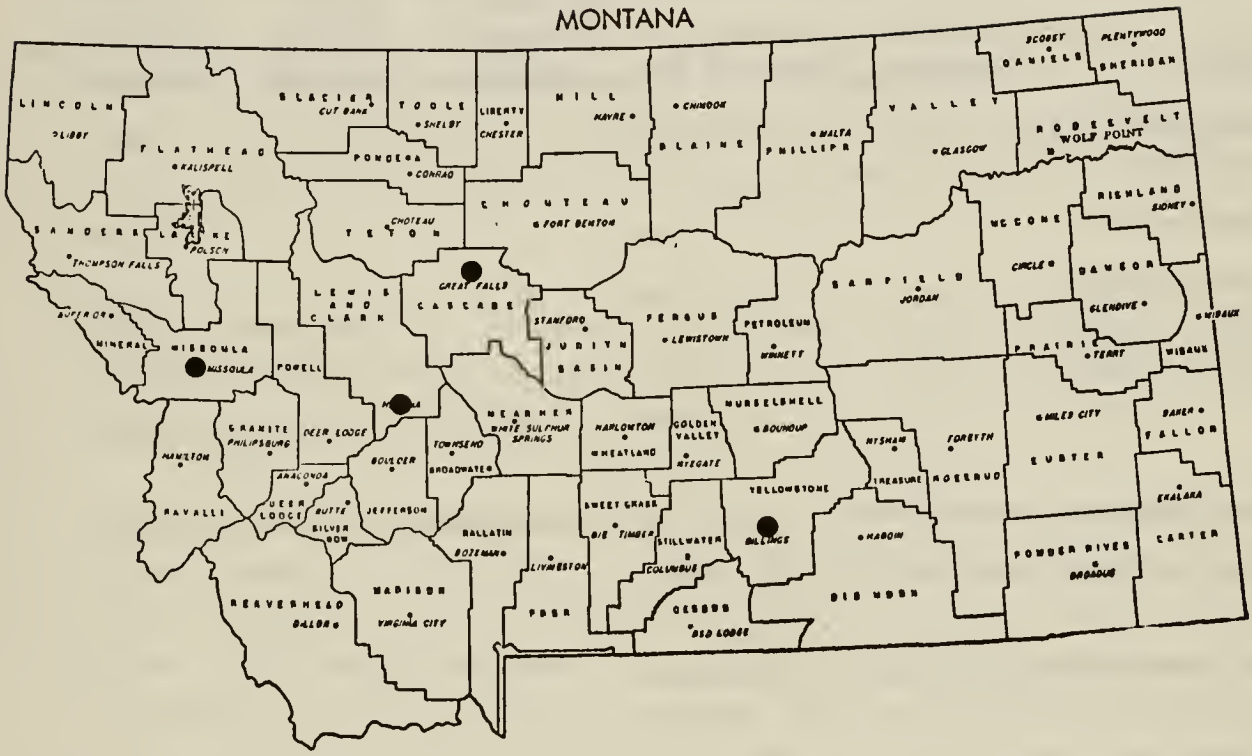
2.1 Availability

Currently, there are 31 approved ESRD stations in four ESRD facilities in Montana (Figure 3). There are presently no freestanding facilities and there are no facilities that do not meet Network #2 designation requirements.

In 1983, 165 ESRD patients received dialysis treatment in Montana; 76 were on staff-assisted dialysis and 89 on home dialysis. Table 2 shows the distribution of the 31 stations in Montana's four ESRD facilities, and patient census by treatment modality.

According to the Montana ESRD Program, as of September, 1984, there were 207 dialysis patients residing in Montana. The total peritoneal dialysis caseload was 50, total hemodialysis caseload was 116, 41 dialysis patients where mode of treatment is unknown, and 29 registered transplant patients.

Figure 3
Location of ESRD Treatment Facilities in Montana: 1984



SOURCE: Montana Health Systems Agency.

Table 2

Dialysis[a] Patient Census by Treatment Modality for Montana Dialysis Facilities as of 12/31/83

Facility	No. In-Center Patients	No. Home Patients[b]	Total	No. Patients Awaiting Transplant	No. New Patients During 1983	No. Patient Deaths Occurring During 1983
Northern Rockies Kidney Center	35	37	72	7	28	14
Columbus Hospital	14	16	30	2	6	9
St. Patrick Hospital	18	32	50	6	14	2
St. Peter's Hospital	9	4	13	3	9	3
TOTAL	76	89	165	18	57	28

[a]Excludes transplant patients (former dialysis patients) being followed by Montana facilities.

[b]Includes patients on home-training as of 12/31/83.

SOURCE: Network Coordinating Council #2 Data System.

Training programs for home dialysis patients are offered by all stations in all facilities. Referrals for kidney transplants are made primarily to the University of Washington and the University of Oregon and, occasionally, to the Universities of Minnesota or Colorado. Due to the low number of persons in Montana able to receive transplants each year, there are no immediate plans for transplant services in the state. Current federal regulations require that a minimum of 15 transplant surgeries be performed annually for a facility to receive approval to offer transplant services. Table 3 shows Montana ESRD patients transplanted at Network #2 transplant centers.

Table 4 shows services and capacity of Montana dialysis facilities. Table 5 shows the utilization of these facilities in 1983 while Table 6 shows ESRD population distribution by sex and race.

Except for the five stations at St. Peter's Hospital, all the stations in Montana appear to operate at or above 73.0 percent utilization at 80.0 percent capacity. At 100.0 percent capacity, Northern Rockies Kidney Center in Billings experienced 78.0 percent utilization while the others experienced utilization rates in the upper 50's and low 60's except for St. Peter's Hospital which experienced 45.0 percent utilization. One hundred percent utilization at 80.0 percent capacity is considered to be maximum by NCC #2.

2.2 Accessibility

Many areas within the state are inaccessible either by air or by land during the winter months. Other areas have relatively few highways or main access roads and may be isolated by heavy snowfall and natural disasters. Although Montana has several metropolitan centers, much of the general and ESRD population is dispersed in more remote, rural areas. The vast geographical expanse, low population density, and constraints on transportation found in the state have a significant impact on the size and location of ESRD facilities and the choice of treatment modes for end stage renal disease patients.

Table 3
Montana ESRD Patients Transplanted at Network Number Two Transplant Centers*

1982	Living Related Donor Transplants	4
	Cadaveric Donor Transplants	10
	TOTAL	14
1983	Living Related Donor Transplants	4
	Cadaveric Donor Transplants	7
	TOTAL	11

*Excludes transplant patients residing in Montana who were transplanted by non-Network facilities.

SOURCE: Network Coordinating Council #2 Data System.

Table 4
Services and Capacity of Montana Dialysis Facilities as of 12/31/83

Dialysis Facilities	Approved Stations	Maximum In-Center Patients Per Hour	Patient Capacity at 50% Saturation	SERVICES: In-Center Dialysis	Home Training	Back-up for Home Patients	Support Services for Home Patients	Self-Care Dialysis In-Center	CAPD Training	CCPD Training	Hospitalizations for ESRD Patients
MONTANA											
Columbus Hospital Great Falls (h,u)	7	42	34	x	x	x			x		x
N. Rockies Kidney Ctr., Billings (h,u)	12	72	58	x	x	x	x		x		x
St. Patrick Hosp., Missoula (h,u)	7	42	34	x	x	x	x	x	x	x	x
St. Peter's Hosp., Helena (h,u)	5	30	24	x	x	x	x		x	x	x

Key: (h) - hospital-based unit
(f) - freestanding unit
(c) - conditional status
(u) - unconditional status
(e) - exception status
(x) - undesignated status

SOURCE: Network Coordinating Council #2 Data System.

Table 5

Utilization and Capacity of Montana Dialysis Facilities at 12/31/83

Facility	Federally Approved Stations	Reported Chronic Outpatient Dialysis Runs	Run Capacity At 50% Saturation	Percent Utilization At 80% Capacity	Run Capacity At 100% Saturation	Percent Utilization At 100% Capacity*
Northern Rockies Kidney Center	12[a]	5842	5990	94	7488	78
	10[b]	5683	4992	114	6240	91
Columbus Hospital	7[a]	2559	3494	73	4368	59
	6[b]	2463	2995	82	3744	66
St. Patrick Hospital	7[a]	2733	3494	78	4368	63
	5[b]	2614	2496	105	3120	84
St. Peter's Hospital	5	1398	2496	56	3120	45

*Based on calculation: $\frac{\text{Actual Runs}}{(\#\ \text{Station})\ (18)\ (52)}$

[a] Indicates total approved stations, total dialysis runs and consequent utilization.

[b] Indicates approved stations, less justified self/home training stations; total dialysis runs reported less reported self/home training runs; consequent utilization.

SOURCE: Network Coordinating Council #2 Data System, Semi-Annual Facility Surveys, 1983.

Table 6
Montana Dialysis Patient Population*-- Number and Percent[a] by Sex and Race as of 12/31/83

	White		Native American[b]		Black		Asian and Pacific Islander		Other[c]		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Female	60	38.5	11	7.0	2	1.3	0	0.0	2	1.3	75	48.1
Male	70	44.9	6	3.8	0	0.0	0	0.0	5	3.2	81	51.9
TOTAL	130	83.3	17	10.9	2	1.3	0	0.0	7	4.5	156	100.0

[a]Percentages rounded to the nearest tenth. Some variation may occur between rows and columns.

[b]Includes Native Americans, Eskimos and Aleuts.

[c]Includes "unknown" and Other.

*Excludes nine dialysis patients followed by Montana dialysis facilities who reside outside of the State.

SOURCE: Network Coordinating Council #2 Data System.

In contrast to the National Planning Guideline of 45 minutes driving time to a treatment facility, the average ESRD patient in Montana can reach a treatment facility in two to three hours under good driving conditions.

Due to the early development of, and support for, home dialysis within NCC #2, as well as physical constraints on transportation to facilities in many areas of the state, home dialysis is favored treatment modality in Montana. Tables 7 and 8 show Montana ESRD patient population distribution by treatment modality and sex.

2.3 Cost

Before 1973, there was very little third-party funding for dialysis and transplantation services. The limited nature of these funds, as well as the relative scarcity of transplant and dialysis services, led to the establishment of screening committees to choose suitable candidates for dialysis and transplant. The exceedingly high costs of ESRD treatment often disastrously deplete the financial resources of the victims and their families.

Congress acted to end this state of affairs by passing legislation making renal failure the only disease category singled out for inclusion in the Medicare Program (Section 2991 of PL 92-603). In order to ensure that payment is made only for chronic kidney failure and not for acute episodes, the statute requires that Medicare eligibility begin with the third month after the month in which renal dialysis was begun and end with the twelfth month after the month in which an individual underwent a successful renal transplant. With regard to reimbursement, the statute gives the Secretary of Health and Human Services authorization to limit reimbursement for kidney dialysis and transplant to those treatment centers that meet regulatory requirements prescribed by the Secretary. These requirements must include a minimum utilization rate for covered procedures and a medical review board to screen the appropriateness of patients for proposed treatment procedures.

Table 7
Montana Dialysis Patient Population Distribution by Age as of 12/31/83[a]

Age	Number of Patients	Percent Total ESRD Patient Population
0-2	0	0.0
3-8	0	0.0
9-14	0	0.0
15-20	2	1.3
21-25	5	3.2
26-30	6	3.8
31-35	7	4.5
36-40	11	7.0
41-45	10	6.4
46-50	5	3.2
51-55	13	8.3
56-60	31	19.9
61-65	22	14.1
66-70	27	17.3
71-75	12	7.7
76-80	4	2.6
81-85	1	0.6
86+	0	0.0
TOTAL	156	99.9

SUMMARY: Patient Distribution by Major Age Groups

Age Group	0-8	9-20	21-35	36-50	51-65	66+	Total
Number	0	2	18	26	66	44	156
Percent Total Patient Population	0.0	1.3	11.5	16.7	42.3	28.2	100.0

Includes all treatment modalities.

[a]Excludes 9 dialysis patients followed by Montana facilities who reside outside of the State.

SOURCE: Network Coordinating Council #2 Data System.

Table 8
Montana ESRD Patient Population Distribution By Treatment Modality and Sex — Number and Percent of Totals 12/31/83*

	HOME						TOTAL HOME	IN-CENTER			TOTAL IN-CENTER	TRANSPLANT**			TOTAL TXPLT	NETWORK TOTAL
	CAPD	HCCP	HIPD	HPDT	HHD	HHDT		HD	IPD	CCPD		TXC	TXL	TXU		
FEMALE:																
Number:	13	3	1	-	17	1	35	36	4	-	40	5	7	2	14	89
% All Female Patients:	14.6	3.4	1.1	-	19.0	1.1	39.2	40.0	4.5	-	45.0	5.6	7.9	2.2	15.7	100.0
% Patients on This Modality Who Are Female:	54.2	30.0	-	-	38.6	33.3	42.7	53.0	80.0	-	54.0	50.0	50.0	50.0	50.0	48.0
MALE:																
Number:	11	7	-	-	27	2	47	32	1	1	34	5	7	2	14	95
% All Male Patients:	11.6	7.4	-	-	28.4	2.1	49.5	33.7	1.0	1.0	35.7	5.3	7.4	2.1	14.8	100.0
% Patients on This Modality Who are Male:	46.0	70.0	-	-	61.4	67.0	57.0	47.0	20.0	-	46.0	50.0	50.0	50.0	50.0	52.0
TOTAL:	24	10	1	0	44	3	82	68	5	1	74	10	14	4	28	184
% PATIENTS:	13.0	5.4	.5	-	24.0	1.6	44.5	37.0	2.7	.5	40.0	5.0	7.6	2.2	15.0	100.0

Total Dialysis Population at 12/31/83: 156
Number of Patients on Home Dialysis: 82
Proportion of Dialysis Patients on Home Dialysis: 52.6%

*Excludes patients treated by Montana facilities who live out of state.
**Includes 6 patients transplanted by non-network facilities but who are living in Montana.

SOURCE: Network Data System

DHHS officials estimated that the ESRD program would cost $240 million during the first full year of operation, reaching an annual cost of $1 billion after a decade of operation.

But the Medicare ESRD Program had, after four years, exceeded its ten-year projected levels of cost and demand. Costs have risen from $185 million in 1974 to $1.3 billion for Fiscal Year 1980. In the same time period, the number of patients has increased from 15,400 to 47,000. (See Tables 9 and 10).

By 1983, one year short of its ten-year mark, the Medicare ESRD program almost doubled its $1 billion projected cost. Costs have risen from $185 million in 1974 to $1.4 billion in 1981 and are expected to exceed the $2 billion mark in 1983. Table 9 shows enrollment and reimbursement data for the Medicare ESRD program for U.S. residents (1974-1981).

High costs have resulted from an increase in demand for treatment. The incidence of the disease itself has not risen significantly but those patients who formerly could not afford either dialysis or transplantation (approximately 50 percent of the ESRD patients) demanded services. The prevalence of kidney patients eligible for Medicare benefits was projected to increase during the first decade from 13,000 to 50,000 or 60,000. As Table 9 indicates, enrollment had already reached 72,000 by 1981.

Table 10 shows enrollment and reimbursement data for the Medicare ESRD program in Montana (1974 - 1981). The data for 1982 and 1983 were not made available. However, one undocumented report shows that three persons or 2.0 percent of ESRD patients in Montana were not eligible for Medicare coverage for their ESRD services in 1983. These persons received funding through the Veterans Administration or through State and Federal Medicaid. Nine patients or 5.0 percent had applications for Medicare coverage pending as of December 31, 1983.

Montana is one of 33 states that has established state kidney programs funded from state general funds. These programs supplement the federal Medicare and Medicaid programs. Montana law mandates assistance be provided to any individual stating the cost of dialysis/transplant care causes an

Table 9
Enrollment and Reimbursement for Hospital and Medical Insurance: U.S. Residents: Persons with Chronic Renal Disease, All Ages[a]

Year	Hospital and/or Medical Insurance		Hospital Insurance		Supplemental Medical Insurance	
	No. of Persons Enrolled	Amount Reimbursed[b]	No. of Persons Enrolled	Amount Reimbursed[b]	No. of Persons Enrolled	Amount Reimbursed[b]
1974	18,457	184.2	18,406	44.6	17,685	139.6
1975	27,959	346.2	27,772	53.5	27,031	252.7
1976	36,851	490.1	36,568	134.0	35,717	356.2
1978	49,630	740.0	49,213	196.1	48,081	543.8
1979	60,051	944.0	59,530	251.7	58,406	692.3
1980	66,058	1,197.9	65,574	329.1	65,284	868.8
1981	71,971	1,372.0	71,512	411.4	70,035	960.5
			Persons Eligible Solely on the Basis of ESRD			
1974	10,028	116.0	10,022	28.5	9,530	87.6
1975	12,634	198.7	12,634	53.7	12,024	145.1
1976	14,607	258.0	14,607	68.1	13,875	189.9
1978	18,111	352.5	18,107	93.1	17,010	259.4
1979	23,361	445.4	23,361	120.7	22,179	324.7
1980	28,027	590.0	28,072	162.0	26,779	427.9
1981	26,606	639.4	26,606	187.0	25,301	452.5

[a] Does not include Medicaid, Private Insurance or State Kidney Program.
[b] In millions.

SOURCE: Health Care Financing Administration.

Table 10

Enrollment and Reimbursement for Hospital and Medical Insurance: Montana Residents: Persons with Chronic Renal Disease, All Ages[a]

Year	Hospital and/or Medical Insurance		Hospital Insurance		Supplemental Medical Insurance	
	No. of Persons Enrolled	Amount Reimbursed[b]	No. of Persons Enrolled	Amount Reimbursed[b]	No. of Persons Enrolled	Amount Reimbursed[b]
1974	32	246,773	32	82,359	32	164,414
1975	45	475,700	45	211,008	45	264,692
1976	72	850,831	72	397,156	72	453,675
1978	100	1,274,445	100	417,116	98	857,339
1979	131	1,815,460	131	608,139	130	1,207,321
1980	142	2,202,630	142	691,066	142	1,511,554
1981	157	2,793,781	157	933,620	154	1,860,161
			Persons Eligible Solely on the Basis of ESRD			
1974	13	125,706	13	48,263	13	77,439
1975	18	257,570	18	134,070	18	123,500
1976	33	493,755	33	244,136	33	249,619
1978	38	704,210	38	224,729	38	479,481
1979	54	942,071	54	327,540	53	614,531
1980	64	1,190,900	64	368,977	64	821,923
1981	59	1,379,843	59	423,270	57	956,573

[a] Does not include Medicaid, Private Insurance or State Renal Program.

[b] Dollars.

SOURCE: Health Care Financing Administration.

economic imbalance within their family unit, and standards were established without reference to maximum/minimum income levels. Current appropriations for fiscal year 83-84 is $125,000. The state program originally located in the Department of Social and Rehabilitation Services was transferred in May, 1983 to the Department of Health and Environmental Sciences.

Program funds are used to offset the cost of needed care and treatment for end stage renal disease which remains after third-party benefits have been exhausted. The department, to the extent of its appropriation for ESRD, will pay for the cost of the following services and supplies:

Home or center dialysis -

1. insertion and maintenance of access site,
2. physician and hospital service for maintenance of home dialysis, and
3. medications.

For home dialysis, the department will pay for training the patient to implement and maintain home dialysis, modification of existing plumbing and wiring, dialysis supplies and equipment provided by facility, rental and/or purchase of dialysis machine and supplies, and repairs to dialysis equipment.

For a renal transplant patient, the department will pay for preliminary medical workup for donor/donee match, transportation of patient to and from the site where the transplant takes place, physician and hospital care related to transplant surgery, medications, and medical follow-up services which are directly related to maintenance or monitoring of the transplanted kidney.

The cost of the following services and supplies is not eligible for payment from the State Kidney Program:

1. attendant or "back-up" person,

2. drugs not specifically listed in the State Administrative Rule 16.35.108 as eligible medications,

3. transportation for anyone other than a transplant patient,

4. services provided which are not related to kidney conditions (e.g., epistaxis, otitis media, diabetes, eye examinations, and heart evaluations),

5. Medicare premiums, and

6. hospital in-patient care of over 60 days unless specifically justified as ESRD-related (i.e., not due to chronic debilitating disease other than renal disease).[1]

The Montana ESRD Program has a yearly budget of $125,000.00 to supplement Medicare co-insurance and disallows. Funds were totally depleted for FY 1984 and as of September, 1984, bills were still being received for services prior to July, 1984. As of September, 1984, bills amounting to $42,510.00 were returned to providers because of inability to pay by the Program. Table 11 shows the data documented from April, 1983 through September, 1984.

The average annual cost of home dialysis treatment is estimated at about $16,000 while the average annual treatment cost per patient in an institutional setting is about $24,000 in 1981 dollars. The cost of transplantation averages about $22,500. Increasing utilization of home dialysis and transplantation will reduce the average cost per patient and the need for chronic institutional dialysis. Correspondingly, there may be an increased demand for the home health care personnel and for more machines for the home. Although costs for transplantation are very high, they occur once, not continuously, as does chronic dialysis. Cost for transplantation includes the cost of kidney retrieval, the transplant, all necessary hospitalization, and follow-up services.

The comparatively lower cost of home dialysis to in-center dialysis stems mainly from greatly reduced staff needed when a large proportion of patients dialyze themselves, thus creating less of a need for extensive facilities.

Table 11
Total ESRD Patient Distribution by Major Age Groups — Montana, April 1983 through September 1984

Method of Treatment	Age Group 0-8	9-20	21-35	36-50	51-65	66+	Age Unknown	Total
Hemodialysis		2	14	25	30	32	13	116
Deaths			2	3	5	7	2	19
Subtotal		2	16	28	35	39	15	135
Peritoneal Dialysis	1	3	10	8	17	7	4	50
Deaths					1	2	2	5
Subtotal	1	3	10	8	18	9	6	55
Mode of Dialysis Unknown				1	5	7	28	41
Deaths								-
Transplants		5	13	5	1		5	29
Deaths				1	1			2
Subtotal		5	13	6	2		5	31
TOTAL	1	10	39	43	60	55	54	262

SOURCE: Montana Department of Health and Environmental Sciences, Central Registry of the Montana End Stage Renal Disease Program (ESRD).

On February 2, 1982, the Health Care Financing Administration (Department of Health and Human Services) issued a Notice of Proposed Rule Making which will change drastically the method of reimbursement for dialysis services. This new reimbursement mechanism proposes to develop a composite reimbursement rate for home and in-center services. The current system of reimbursement provides better reimbursement for in-center services, and, consequently, disincentive for home-based services. The new system will reimburse facilities and physicians at a flat rate negotiated on a prospective basis. Since in-center dialysis is more costly than home dialysis, the new "equalized" rate will encourage facilities to provide services in the most cost-effective manner.

3.0 Future Resource Requirements

3.1 Availability

According to ESRD Network #2, the need for additional dialysis stations is considered upon request by the facility. One of the criteria in approving stations is utilization. Maximum utilization is based on three shifts per day, six days a week, and assumes that each patient has three treatments per week, and each station can average six patients per week.

Additional information in Table 4 indicates that the 31 stations have a capability of delivering a total of 558 treatments per week. This is based on the Network #2 80% maximum utilization standard. Thus, three treatments per patient per week allow a total of six patients to receive staff-assisted dialysis per week, per station.

In this calculation, it is important to remember that:

1. not all Montanans are receiving staff-assisted dialysis in Montana and
2. some staff-assisted dialysis capability is needed for home dialysis patients.

The number of patients demanding ESRD services can be discussed in two ways: (a) incidence and (b) prevalence.

The incidence rate refers to new patients qualifying for ESRD services over a designated period of time and is expressed as a ratio of patients per million population. In Montana, the incidence rate for 1983 was 60 per million. The prevalence rate is the number of patients receiving care at a given point in time. There were 155 ESRD patients in Montana as of December 31, 1983.

Based on present dialysis stations, patient capacity of 186 in-center dialysis per week and 76 patients currently receiving staff-assisted dialysis, there is a current excess patient capacity of 48. Geographical distribution of facilities has not been addressed in this calculation and should be considered when reviewing proposals for new stations.

ESRD patient and station need projections for Montana through 1990 are made using the following formulas:

AI = (TGP) (60 per million)
FT = (AI) (.15)
TDP = [(PYDP + AI) (.85)] - FT

AI - Annual Incidence
TGP - Total General Population
FT - Functioning Transplants
TDP - Total Dialysis Population
PYDP - Previous Year Dialysis Population

Projected In-Center Patient Count (PICP) is estimated at 50% of TDP. The other 50% is expected to dialyze at home.

Projected Runs = PICP X 156 runs
156 runs = 3 runs per week X 52 weeks
Projected Station Need = PICP/4.8
4.8 = 6 patients per station X 80% utilization

The projected figures are shown in Table 12.

Table 12
Year End ESRD Population Forecast — Eastern Montana

Year	Total General Population	Annual Incidence	Functioning Transplants	Total Dialysis Population	Projected # In-Center Patients	Projected Runs	Projected Station Need
1983				20.0	10.0	1,560	2.1
1984	104,550	6.3	0.9	21.4	10.7	1,669	2.2
1985	104,075	6.2	0.9	22.6	11.3	1,759	2.4
1986	103,600	6.2	0.9	23.5	11.8	1,835	2.5
1987	103,125	6.2	0.9	24.3	12.2	1,897	2.5
1988	102,650	6.2	0.9	25.0	12.5	1,949	2.6
1989	102,175	6.1	0.9	25.5	12.8	1,991	2.7
1990	101,700	6.1	0.9	26.0	13.0	2,026	2.7

Incidence Per Million: 60

Mortality Per Year: 0.15

SOURCE: Network Coordinating Council #2 Data System.

Table 12
Year End ESRD Population Forecast – North Central Montana

Year	Total General Population	Annual Incidence	Functioning Transplants	Total Dialysis Population	Projected # In-Center Patients	Projected Runs	Projected Station Need
1983				30.6	15.0	2,340	3.1
1984	146,260	8.8	1.3	31.6	15.8	2,468	3.3
1985	147,048	8.8	1.3	33.1	16.5	2,580	3.4
1986	147,836	8.9	1.3	34.3	17.2	2,677	3.6
1987	148,624	8.9	1.3	35.4	17.7	2,762	3.7
1988	149,412	9.0	1.3	36.4	18.2	2,937	3.8
1989	150,200	9.0	1.4	37.2	18.6	2,904	3.9
1990	150,988	9.1	1.4	38.0	19.0	2,963	4.0

Incidence Per Million: 60

Mortality Per Year: 0.15

SOURCE: Network Coordinating Council #2 Data System.

Table 12
Year End ESRD Population Forecast — South Central Montana

Year	Total General Population	Annual Incidence	Functioning Transplants	Total Dialysis Population	Projected # In-Center Patients	Projected Runs	Projected Station Need
1983				33.0	16.5	2,574	3.4
1984	172,472	10.3	1.6	35.2	17.6	2,753	3.7
1985	175,360	10.5	1.6	37.4	18.7	2,914	3.9
1986	178,248	10.7	1.6	39.2	19.6	3,061	4.0
1987	181,136	10.9	1.6	41.0	20.5	3,195	4.3
1988	184,024	11.0	1.7	42.6	21.3	3,319	4.4
1989	186,912	11.2	1.7	44.0	22.0	3,433	4.6
1990	189,800	11.4	1.7	45.4	22.7	3,540	4.7

Incidence Per Million: 60

Mortality Per Year: 0.15

SOURCE: Network Coordinating Council #2 Data System.

Table 12
Year End ESRD Population Forecast -- Southwestern Montana

Year	Total General Population	Annual Incidence	Functioning Transplants	Total Dialysis Population	Projected # In-Center Patients	Projected Runs	Projected Station Need
1983				25.0	12.5	1,950	2.6
1984	189,900	11.4	1.7	29.2	14.6	2,280	3.0
1985	191,100	11.5	1.7	32.9	16.4	2,564	3.4
1986	192,300	11.5	1.7	36.0	18.0	2,898	3.8
1987	193,500	11.6	1.7	38.7	19.4	3,022	4.0
1988	194,700	11.7	1.8	41.1	20.6	3,206	4.3
1989	195,900	11.8	1.8	43.2	21.6	3,367	4.5
1990	197,100	11.8	1.8	45.0	22.5	3,508	4.7

Incidence Per Million: 60

Mortality Per Year: 0.15

SOURCE: Network Coordinating Council #2 Data System.

Table 12
Year End ESRD Population Forecast — Northwestern Montana

Year	Total Ceneral Population	Annual Incidence	Functioning Transplants	Total Dialysis Population	Projected # In-Center Patients	Projected Runs	Projected Station Need
1983				47.0	23.5	3,666	4.9
1984	205,950	12.4	1.9	48.6	24.3	3,791	5.0
1985	208,475	12.5	1.9	50.1	25.0	3,905	5.2
1986	211,000	12.7	1.9	51.4	25.7	4,011	5.4
1987	213,525	12.8	1.9	52.7	26.3	4,109	5.5
1988	216,050	13.0	1.9	53.8	26.9	4,200	5.6
1989	218,575	13.1	2.0	54.9	27.5	4,286	5.7
1990	221,100	13.3	2.0	56.0	28.0	4,367	5.8

Incidence Per Million: 60

Mortality Per Year: 0.15

SOURCE: Network Coordinating Council #2 Data System.

Table 12
Year End ESRD Population Forecast — Montana

Year	Total General Population	Annual Incidence	Functioning Transplants	Total Dialysis Population	Projected # In-Center Patients	Projected Runs	Projected Station Need
1983				155.0	77.5	12,090	16.1
1984	817,972	49.1	7.4	166.1	83.1	12,956	17.3
1985	824,960	49.5	7.4	175.8	87.9	13,715	13.3
1986	831,948	49.9	7.5	184.4	92.2	14,383	19.2
1987	838,936	50.3	7.6	192.0	96.0	14,974	20.0
1988	845,924	50.8	7.6	198.7	99.4	15,499	20.7
1989	852,912	51.2	7.7	204.7	102.4	15,969	21.3
1990	859,900	51.6	7.7	210.1	105.1	16,390	21.8

Incidence Per Million: 60

Mortality Per Year: 0.15

SOURCE: Network Coordinating Council #2 Data System.

3.2 Accessibility

The projections developed show that Montana should have sufficient ESRD resources to meet the probable demands of 199 dialysis patients by the end of 1990.

The NCC #2, in cooperation with the Montana State Health Planning and Development Agency and the Health Systems Agency, is charged with assuring the accessibility of all appropriate services to ESRD patients in the State by means of:

1. estimating future needs for ESRD services and facilities,
2. monitoring the appropriateness and quality of ESRD treatment services, and
3. review of proposals for new or changed ESRD services in Montana.

Through this agreement, Montana should be assured of a controlled and orderly growth of ESRD services which will make these services accessible to all who need them.

Because of travel difficulties and a sparse and rural population in many sections of the State, it is not practical to establish time limits to ESRD facilities across Montana. Therefore, the continued development of home health care services will minimize the travel barrier and allow patients to schedule dialysis at their own convenience.

3.3 Cost

Coverage of dialysis services under Medicare has virtually eliminated income barriers to in-center dialysis services.

To those not eligible for Medicare and who do not have adequate health insurance, other funding sources such as Vocational Rehabilitation have proved to be sufficient in Montana.

To assure the growth of home and self-care dialysis, a new method of reimbursement for home dialysis was established by the Health Care Financing Administration (Department of Health and Human Services). Refer to 2.3, Cost.

4.0 General Analysis

4.1 Alternatives and Issues

Home dialysis may be the preferred treatment mode for a number of Montana residents. Given the limited access to center-based dialysis, a large percentage of ESRD patients in Montana are confronted with the choice between relocating to be within a reasonable distance from a center or learning to dialyze at home. In addition to the access considerations, many physicians and patients believe the control assumed by the patient using home dialysis increases his/her independence, promotes assimilation of the real adjustments required with ESRD treatment into the patient's daily life and, for each home patient, decreases the probability of infection. From a systems perspective, home dialysis represents a lower cost treatment mode while providing comparable quality. Constraints on the amount of dialysis that can be in the home are (1) availability of trained home helpers, (2) the comparative health status of the patient, and (3) patient choice.

A home helper may be a family member or area resident who has completed the home training program with the patient and is well-informed in the care and dialysis process. Although the Department of Vocational Rehabilitation has some funds for home helpers and Medicare is considering providing some limited coverage for helpers, continued funding remains a problem.

Patient choice may be affected by both patient attitude and the influence of health care professionals, economic incentives or obstacles, other barriers to access, awareness of alternative treatment forms and family/social considerations. The complex nature of some health problems requires frequent monitoring while on dialysis. These patients should not be considered for home dialysis. Although, nationally, a greater percent-

age of persons with complex medical problems are entering dialysis care, more can be done to encourage use of home dialysis by others. Increased availability of home dialysis training programs may positively affect use of home dialysis.

REFERENCE

1. Administrative Rules of Montana, 16.35.101 through 16.35.113, January, 1984.

RECOMMENDED CRITERIA AND STANDARDS FOR REVIEW

These standards are based on the preceding plan and are to be applied to the review criteria established by law and rule and referenced below. All review criteria in MCA 50-5-304 and ARM 16.32.110 may be applied, but specific standards are established for the following:

1. Criteria (MCA 50-5-304 (1)(c)): The need that the population served or to be served by the services has for the services.

   Plan Standard:

   Existing maintenance dialysis units should be operated at or near optimal utilization before new units are considered. Optimal utilization is considered to be 80 percent for three treatment runs per day, six days a week. Facilities presently offering ESRD units should expand this service before new units are established elsewhere.

2. Criteria (MCA 50-5-304 (1)(d)): The availability of less costly quality equivalent or more effective alternative methods of providing such services.

   Plan Standard:

   Facilities proposing ESRD services should have provisions to assure that all modes of treatment and rehabilitation are available to all individuals with end stage renal disease.

3. Criteria (MCA 50-5-304 (1)(e)): The immediate and long term financial feasibility of the proposal as well as the probable impact of the proposal on the costs of and charges for providing health services by the person proposing the health service.

Plan Standard:

Proposed renal support systems in Montana should maintain high quality standards in accordance with regulations set forth in detail in the Federal Register.

4. Criteria (MCA 50-5-304 (1)(g)): The availability of resources, including health manpower, management personnel, and funds for capital and operating needs for the provision of services proposed to be provided and the availability of alternative uses of such resources for the provision of other health services.

Plan Standards:

(a) All ESRD units for chronic in-facility dialysis should have at least two stations.

(b) All ESRD units should be supervised by a physician trained in kidney diseases (i.e., a nephrologist).

GENERAL HOSPITAL INPATIENT SERVICES

Goals:

1. Montana should have an adequate supply of hospital beds to meet state, regional and local needs, while avoiding excess capacity or unnecessary duplication of services.

2. Montana should maintain a strong primary care hospital service system, with geographic accessibility remaining at or above the 1980 level.

Objectives:

1. Through 1990, hospitals should undertake construction, modernization, conversion, or consolidation projects only when necessary to provide the projected numbers of beds and services.

2. Montana's rural primary care hospitals should stabilize their revenues through diversification of services and consolidation of local health resources.

Actions:

1. Through 1990, Montana hospitals with excess beds should decrease their number of excess beds whenever they remodel or replace their facilities.

2. By 1990, all hospitals in Montana should have a long-range institutional plan for construction, modernization, conversion, consolidation, merger and service offerings. This plan should be consistent with community needs and take into account other resources in the service area.

3. Montana health care providers, the Department of Health and Environmental Sciences, the Health Systems Agency, and other interested parties should continue to negotiate the type of Certificate of Need (or other capital and new service review) program most functional for Montana. Appropriate legislation should be submitted to the 1987 Legislature.

4. Through 1985, Certificates of Need should be approved only for the construction, modernization, conversion, or consolidation of beds required to meet projected needs.

5. The Montana Hospital Association, the Health Systems Agency, and the Departments of Health and Environmental Sciences and Social and Rehabilitation Services should work with local communities to encourage diversification of hospital services and the consolidation of local health resources.

1.0 Background

1.1 Service Definition

As one of their major functions, general hospitals provide 24-hour inpatient services for the diagnosis, short-term care, and treatment of patients. Inpatient services range from very generalized medical-surgical procedures to highly specialized and sophisticated services in specially designed units. The range of services delivered by any one hospital depends upon the population and the geographic area being served as well as such factors as transportation access, physician accessibility and specialization, availability of required personnel, utilization of service, and economic feasibility.

This component addresses general short-stay acute care services and total bed need for this category of care. The need for individual specialty service units and specific ancillary services are addressed in separate components.

The number of beds needed for existing specialty services that require dedicated beds are included in the totals presented in this component.

1.3 Trends

There are a number of well-documented, generally recognized trends in hospital services. Most of these trends have resulted in improved care, more care, and higher costs for services:

(a) increased specialization and accompanying increases in number and variety of personnel,

(b) increased technology,

(c) increased cost of malpractice insurance,

(d) increased cost of goods and services purchased by the hospitals due to inflation in the general economy,

(e) increased demand and expectations for health care, and

(f) increased use of outpatient services and resulting increase in intensity of remaining inpatient services.

These trends observed nationally have increased health care costs from 74.7 billion dollars in 1970 to 321.4 billion dollars in 1982. This increase represents a growth from 7.6 percent of the gross national product to 10.5 percent. In terms of prices, the general consumer price index was 119.0 in 1971 and rose to 292.4 in 1982, an increase of 146 percent. In the same period, medical prices rose from an index of 120. to 344.7, a 187 percent increase.

The national trends in hospital services are reflected in Montana. The ratio of inpatient to outpatient surgical procedures has decreased from 12.7. to 1.0 in 1978 (92.7 percent inpatient) to a ratio of 3.6 to 1.0 in 1983 (78.3 percent inpatient). Admissions, length of stay, and occupancy have all dropped slightly between 1975 and 1983. The increase in intensity of care is indicated by a rise from 9.6 full-time equivalent employees per 1,000 patient days in 1975 to 13.0 per 1,000 in 1982 in Montana hospitals.

2.0 Current Situation

2.1 Availability

Montana has a total 1984 hospital capacity of 381 beds in excess of the projected need for 1990. On a regional basis only the south central (Region 3) has a projected need for additional beds by 1990. Any addition or expansion of services must be based on need for new services or problems with geographic access to services.

2.2 Accessibility

Patient origin data for general hospital beds indicate that community hospitals primarily serve the residents in the immediate service area. Hospitals with less than 30 beds receive about 81 percent of their admissions from residents of their own county. These small hospitals are

30 of Montana's 60 hospitals. The projected bed need for 1990 would place 35 of Montana's hospitals at 30 beds or less.

There are seven counties without a hospital and one, Blaine, has only an Indian Health Service Hospital. Table 1 lists the location of Montana's hospitals. With the present distribution, 79 percent of the admissions statewide are to hospitals in the same county as the patient. This percentage is higher for counties with referral hospitals and lower for counties that have only small primary care hospitals.

Distribution and accessibility to primary care hospital services is considered to be generally adequate and near the maximum currently feasible. Many small hospitals are, however, vulnerable to the effects of changes in the economy, changes in medical practice or loss of doctors in the community.

There is a need to improve small rural hospital service and economic stability to assure maintenance of access in many areas of the state.

2.3 Cost

The Federal focus on the health care industry has been on the cost of care. Although the Federal government has developed the health planning program and a number of programs to promote delivery alternatives and utilization review, the major emphasis is on reimbursement systems.

The Medicare reimbursement system based on diagnostic related groups (DRGs) is expected to have effects on all purchases of hospital services and on the balance between hospital-based and other health service use. The effects of the DRG system on hospital costs, methods of computing charges for payers other than Medicare, and on medical practice patterns of hospital use will complicate all elements of hospital care development.

Montana hospital expenses per patient day rose 41.3 percent between 1980 and 1982. The cost per admission rose 43.7 percent in the same period. Hospital construction projects submitted during 1983 total about 30 million

dollars and can be expected to maintain the recent expense increase trend regardless of the effects of DRGs.

Montana hospitals with 30 beds or less had expenses that exceeded total service revenues in 1981. Patient revenues covered 98.4 percent of expenses for these hospitals.

3.0 Future Resource Requirements

3.1 Availability

The projection of needs for beds in Montana's community hospitals was revised in April, 1983. The following formula is used for these projections:

BED NEED FORMULA

$$\frac{\text{(Use Rate) (Projected Population)} \div 365}{\text{(Occupancy Rate)}} = \text{Average Expected Beds Required}$$

where: $\frac{\text{Current Patient Days*}}{\text{Current Population}} = \text{Use Rate}$

$$\frac{\text{(Use Rate) (Projected Population)}}{365} = \text{Average Daily Census}$$

*Most recent three year average.

This method projects bed requirements based upon two sets of variables: utilization and population. The relationship among them is expressed in terms of a simple formula, but the variations possible in the formula are numerous. The objective is to estimate the number of inpatient beds required in the future by a specific population given current utilization rates.

To account for the variations in the size of individual facilities, and in the type and mix of services provided by each facility, three categories of

facilities have been identified and differing occupancy factors have been determined for each of the categories. These occupancy rate categories are set for the purpose of projecting bed need with the above formula and may not reflect current experience in any given hospital. Hospitals offering similar services in the same community are placed in an occupancy factor category based on their total beds. The categories are as follows:

Facility Size	Occupancy Factor
Small (under 30 beds)	40 percent
Medium (30 - 89 beds)	60 percent
Large (90 beds and over)	80 percent

Alcohol and psychiatric treatment unit bed need is only projected for existing services in general service hospitals and is not intended to indicate the need for these services in other communities.

Hospital bed resources and need projections for 1990 are listed by region in Table 1. The number of beds for each service are only listed to indicate how the beds are computed. The total is considered as the bed need and beds may be allocated according to local need. Detailed hospital data is available in the latest Montana Health Data Book and Medical Facilities Inventory.

3.2 Accessibility

Future resource commitment plans to maintain accessibility to services should be directed to two general areas. First there is the problem of maintaining the emergency and primary care capabilities of financially-threatened small rural hospitals. The second area is the determination of the balance among cost, accessibility, and medical need for secondary and tertiary services that require special equipment and personnel.

Table 1
Hospital Bed Resources and Need Projections for 1990 – Region I

HOSPITAL	1984 HOSPITAL BEDS[a] Med/Surg	ICU/CCU	Alcohol	TOTAL	1990 HOSPITAL BED NEED PROJECTIONS[b] Occupancy Factor	Med/Surg	ICU/CCU	Alcohol	TOTAL
Fallon Memorial (Baker)	16	3		19	.4	11	1		12
McCone County (Circle)	20			20	.4	17			17
Prairie Community (Terry)	6	2		8	.4	5			5
Daniels Memorial (Scobey)	7	1		8	.4	9	1		10
Poplar Community (Poplar)	21	1		22	.4	21			21
Sheridan Memorial (Plentywood)	19	2		21	.4	33	2		35
Garfield County (Jordan)	7	1		8	.4	3	1		4
Rosebud Community (Forsyth)	16	2		18	.4	13	2		15
Dahl Memorial (Ekalaka)	14	2		16	.4	4			4
Roosevelt Memorial (Culbertson)	14	2		16	.4	20	1		21
Glendive Community (Glendive)	42	4		46	.6	34	2		36
Frances Mahon Deaconess (Glasgow)	44	4	51	99	.8	25	4	41	70
Phillips County (Malta)	29	1		30	.6	19	1		20
Community Memorial (Sidney)	51	4		55	.6	53	3		56
Trinity (Wolf Point)	40	2		42	.6	27	2		29
Holy Rosary (Miles City)	104	5		109	.8	60	7		67
TOTAL				537					422

[a] Beds are reported as total bed supply, either staffed or licensed beds, whichever is greater.
[b] Based on 1981-1983 average patient days and 1982 to 1990 projected population growth.

SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau.

Table 1
Hospital Bed Resources and Need Projections for 1990 — Region II

HOSPITAL	1984 HOSPITAL BEDS[a] Med/Surg	ICU/CCU	Psych.	Alcohol	Other	TOTAL	Occupancy Factor	1990 HOSPITAL BED NEED PROJECTIONS[b] Med/Surg	ICU/CCU	Psych.	Alcohol	Other	TOTAL
Chouteau Co. Dist. (Fort Benton)	17					17	.4	10					10
Memorial (Cut Bank)	18	2				20	.4	26	2				28
Toole County (Shelby)	18	2				20	.4	29	2				31
Teton Medical Center (Choteau)	19	3				22	.4	25	1				26
Liberty County (Chester)	9	2				11	.4	12	2				14
Big Sandy Medical Ctr. (Big Sandy)	9					9	.4	8	0				8
Pondera Medical Center (Conrad)	47	2				49	.6	21	2				23
Montana Deaconess (Great Falls)	203	22	27	18	12	282	.8	174	12	19	24	11	240
Columbus (Great Falls)	198	14				212	.8	178	12				190
Northern Montana (Havre)	113	7				120	.8	81	5				86
TOTAL						762							656

[a] Beds are reported as total bed supply, either staffed or licensed beds, whichever is greater.
[b] Based on 1981-1983 average patient days and 1982 to 1990 projected population growth.

SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau.

Table 1
Hospital Bed Resources and Need Projections for 1990 – Region III

	1984 HOSPITAL BEDS[a]						1990 HOSPITAL BED NEED PROJECTIONS[b]						
HOSPITAL	Med/Surg	ICU/CCU	Psych.	Alcohol	Other	TOTAL	Occupancy Factor	Med/Surg	ICU/CCU	Psych.	Alcohol	Other	TOTAL
Wheatland Memorial (Harlowton)	21	2				23	.4	8					8
Big Horn County Memorial (Hardin)	16					16	.4	24					24
Stillwater Community (Columbus)	25	2				27	.4	22	1				23
Carbon County Memorial (Red Lodge)	26	2				28	.4	29	2				31
Roundup Memorial (Roundup)	17					17	.4	20					20
Sweet Grass Community (Big Timber)	16	1				17	.4	7	1				8
Central Montana (Lewistown)	43	4				47	.6	47	3				50
St. Vincent (Billings)	229	12			13	254	.8	272	14			13	299
Billings Deaconess (Billings)	190	36	27			253	.8	207	40	28			275
TOTAL						682							738

[a] Beds are reported as total bed supply, either staffed or licensed beds, whichever is greater.
[b] Based on 1981-1983 average patient days and 1982 to 1990 projected population growth.

SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau.

Table 1
Hospital Bed Resources and Need Projections for 1990 – Region IV

HOSPITAL	1984 HOSPITAL BEDS[a] Med/Surg	ICU/CCU	Psych.	Alcohol	TOTAL	Occupancy Factor	1990 HOSPITAL BED NEED PROJECTIONS[c] Med/Surg	ICU/CCU	Psych.	Alcohol	TOTAL
Granite County Memorial (Philipsburg)	10				10	.4	7				7
Madison Valley (Ennis)	10	1			11	.4	12	1			13
Ruby Valley (Sheridan)	18	2			20	.4	14				14
Broadwater Community (Townsend)	21				21	.4	10				10
Mountainview Memorial (White Sulphur Springs)	5	1			6	.4	3	1			4
Barrett Memorial (Dillon)	29	2			31	.6	16	1			17
Powell County Memorial (Deer Lodge)	33	2			35	.6	22	1			23
Livingston Memorial (Livingston)	50	4			54	.6	41	3			44
Shodair[b] (Helena)	27			9	36	.6	15			9[d]	24
Community (Anaconda)	40	3			43	.6	32	1			33
St. James (Butte)	188	12	36	34	270	.8	153	12	12	13	190
Bozeman Deaconess (Bozeman)	98	6			104	.8	83	5			88
St. Peters (Helena)	103	8			111	.8	107	6			113
TOTAL					752						577

[a] Beds are reported as total bed supply, either staffed or licensed beds, whichever is greater.
[b] Shodair Children's Hospital has a separate chemical dependency treatment unit with 14 beds.
[c] Based on 1981-1983 average patient days and 1982 to 1990 projected population growth.
[d] This unit has not been in use long enough to provide adequate projections. The 9 beds are the existing number.

SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau.

Table 1
Hospital Bed Resources and Need Projections for 1990 – Region V

HOSPITAL	1984 HOSPITAL BEDS[a] Med/Surg	ICU/CCU	Psych.	Alcohol	Other	TOTAL	Occupancy Factor	1990 HOSPITAL BED NEED PROJECTIONS[b] Med/Surg	ICU/CCU	Psych.	Alcohol	Other	TOTAL
Clark Fork Valley (Plains)	16	2				18	.4	38	3				41
Mineral County (Superior)	8	2				10	.4	10	1				11
St. Luke Community (Ronan)	25	2				27	.4	26					26
Mission Valley (St. Ignatius)	28	2				30	.6	13	1				14
St. Joseph (Polson)	36	4				40	.6	26	2				28
North Valley (Whitefish)	44	4				48	.6	40	3				43
St. John's Lutheran (Libby)	26	3				29	.4	27	1				28
Marcus Daly Memorial (Hamilton)	45	3				48	.6	48	2				50
Kalispell Regional (Kalispell)	93	11				104	.6	102	11				113
St. Patrick (Missoula)	171	14	16	16		217	.8	155	10	15	10		190 (213)[c]
Missoula General (Missoula)	52	5				57	.8	15	2				17 (50)[c]
Missoula Community (Missoula)	101	4			10	115	.8	93	3			9	105
TOTAL						743							666

[a] Beds are reported as total bed supply, either staffed or licensed beds, whichever is greater.
[b] Based on 1981-1983 average patient days and 1982 to 1990 projected population growth.
[c] Approved Certificate of Need.

SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau.

3.3 Cost

Hospital costs are the single largest component of health care accounting for about 39 percent of health care expenditures in Montana in 1980. Planning for the development of capital resources and service distribution is essential to maintain availability and accessibility to necessary services.

Payment mechanisms and service pricing have become high priority items with the development of government reimbursement systems that now account for about 56 percent of payments to hospitals. The new Medicare system for determining payments to hospitals has the potential to impact costs and care patterns for all patients regardless of source of payment. This plan component mainly addresses resource needs and distribution. Health care costs and financing are addressed elsewhere.

4.0 General Analysis

4.1 Alternatives and Issues

Hospital resources have been moving toward levels that are more consistent with demand and estimated need for services. The Certificate of Need program has been a significant factor in this evolution because it requires planning for future needs. The structure of the Health Planning Program encourages a system of community consensus in the planning process.

Unemployment, other general economic trends, the DRG reimbursement system, and increased use of alternative care settings can all act to suppress demand for hospital service capacity. Some of these factors may, however, suppress demand without reducing need. It is thus even more important than in the past to attempt to relate any changes in hospital care or financing to their corresponding effects on health.

RECOMMENDED CRITERIA AND STANDARDS FOR REVIEW

These standards are based on the preceding plan and are to be applied to the review criteria established by law and rule and referenced below. All review criteria in MCA 50-5-304 and ARM 16.32.110 may be applied, but specific standards are established by this plan for the following:

1. Criteria (MCA 50-5-304 (1) (c)): The need that the population served or to be served by the services has for the services.

   Plan Standards:

   (a) No new general hospital beds should be approved unless the area in which the proposed hospital will be located is not and cannot be served by existing hospitals.

   (b) Proposed expansion and/or major modernization plans subject to Certificate of Need reviews must be compatible with the bed need estimated in this plan.

2. Criteria (MCA 50-5-304 (1)(e)): The immediate and long-term financial feasibility of the proposal as well as the probable impact of the proposal on the costs of and charges for providing health services by the person proposing the health services.

   Plan Standard:

   Hospitals with less than 50 beds should use a "swing bed" concept rather than establish separate medical/surgical, obstetrical, pediatric and other units.

3. Criteria (Additional to MCA and ARM): Application for Certificate of Need for hospital services should include quality control and utilization review assurances.

Plan Standard:

Peer review programs and provisions for referral to more specialized or lower level services as needed should be included in the plans for any inpatient hospital service.

HOME HEALTH CARE

Goal:

High quality home health care should be available and accessible, at reasonable cost and with minimal duplication of service areas, to all Montanans.

Actions:

1. Explore alternative methods of providing home care and to assess the relative merits of each method.

2. Encourage establishment of home health agencies, or branches, when financial feasibility can be demonstrated, in:

   a. Service areas currently unserved

      -- Havre, Chester and Chinook area (Planning District 4, North Central)

   b. Service areas currently underserved

      -- Wolf Point, Scobey and Plentywood areas (Planning District 1, Eastern)

3. Continue monitoring the activities of those agencies delivering services in overlapping geographical areas to insure minimal duplication.

4. Established or would-be providers should be encouraged to develop programs which will be eligible for federal grants to provide start-up and/or expansion monies. Other funding sources should also be researched.

5. The Montana Health Systems Agency (MHSA), in cooperation with the Montana Association of Home Health Agencies (MAHHA), should develop educational programs:

   a. To inform physicians, nursing home personnel, hospital discharge planning personnel, and other providers of home care services of the potential advantages of home health care.

   b. To inform the general public of the scope, availability, cost and need for home health services.

6. The MHSA should assist in developing a program which would provide the administration of home health agencies with technical assistance in fiscal management.

7. Third-party payors should be encouraged to expand coverage of home health services, on an optional basis, as an integral part of the health care delivery system. Allowed services and payment schedules should be carefully worked out to avoid abuse (excessive services and/or charges).

8. Hospitals, particularly in rural areas, should be encouraged to establish home health care agencies and services when appropriate.

1.0 Introduction

For many of the frail elderly, those who are age 75 or older and are chronically disabled, long-term care has become or will become a way of life. In fact, the proportion of people in nursing homes who are age 75 or older is more than twenty-five times greater than the proportion of people in the 45-64 year age group[1]. Illness and trauma that would have once been fatal are now being survived. Survival is frequently accompanied by diminished capabilities for independent functioning, which results in the need for long-term care. Meeting the needs of the elderly in a responsive and efficient manner has become a national dilemma and has spurred controversy between proponents of institutional care and those of home health care.

Because of the growing number of frail elderly in need of long-term health care services, further research on this population is needed. The long-term care and treatment of the elderly should be part of a broad continuum of service, including both home health care and institutional care. In most cases, home health care should be recognized as an option to be considered and ruled out before placement in a nursing home is made.

Although evaluations and studies of the cost-benefit ratios have been initiated to determine whether home health care programs delay, postpone, or eliminate the need for institutionalization, the results have been inconclusive[2].

1.1 Background

On June 30, 1965, President Lyndon Johnson signed into law the "Health Insurance Program for the Aged" (P.L. 89-67), referred to as Medicare. This law, which was encoded as Title XVIII of the Social Security Act of 1965, went into effect on July 1, 1966. Medicare was supposed to be a federal health insurance program for those individuals age 65 and older who are eligible to receive Social Security benefits, for those individuals under age 65 suffering from end-stage renal disease, and/or those with permanent disability. It was created as a mechanism for reducing the

financial obstacles which were known to prevent the needy elderly from having access to appropriate health care services.

In the waning days of the Carter Administration, an unusual bill was passed by Congress and signed into law. The bill, referred to as the Omnibus Reconciliation Act of 1980 (P.L. 96-499), contained a wide variety of provisions relating to the Medicare program. Hidden within these provisions were several measures that affect the delivery of home health services under Title XVIII.

Specifically, the five most critical amendments of the Medicare program relating to home health are:

1. unlimited home health visits would be available under Parts A and B of the Medicare program,

2. the existing three-day prior hospitalization requirement for home health benefits under Part A was eliminated,

3. the $60.00 deductible, which home health benefits under Part B were subject to, was eliminated,

4. the need for occupational therapy was added to the list of qualifying services for home health benefits, and

5. the requirement that for-profit (proprietary) home health agencies only be able to participate in the Medicare home health program in those states which license home health agencies was eliminated.

What the long-term effects of these changes will be are yet unknown, but based on available evidence, it seems clear that these changes would not meet the goals of reduced institutionalization and costs.

1.2 Service Definition

Home health care is a combination of health care and social services rendered to individuals and families in their homes or other community settings.

Home health care as defined by Medicare is the provision of skilled, part-time, intermittent nursing care and at least one other service such as the Home Health Aide (who provides essentially personal services for the patient), physical therapy, speech therapy, occupational therapy, medical equipment, medical social services, respiratory or nutritional services. These services must be provided under a physician's plan of care which has to be reviewed and renewed every two months and/or monthly by a physical, speech or occupational therapist. Speech therapy is billed both under Medicare Part B and Home Health. Although most of the patients in the home health agencies' caseload are predominantly elderly, Home health care services can be utilized by patients of all ages with acute or chronic illnesses. Patients' ages have ranged from a few weeks to over 100 years. Home health care is also provided to the developmentally disabled and to the patient convalescing from surgery.

The Montana Department of Health and Environmental Sciences (MDHES) defines home health care as the provision of nursing and therapeutic services to individuals and families in their own homes or ambulatory settings for the purpose of preventing disease, promoting, maintaining or restoring health, and minimizing the effects of illness and disability.

Home care is one component of the total health care system and, to be effective, should be carefully coordinated with the other components. However, it is important to emphasize that home health care is <u>not</u> a cheap substitute for hospital, extended care facility or nursing home services, but complements these services. Alternative modes of care must be evaluated in relation to the needs of the patient and availability of services.

Under Medicare, a patient is eligible to receive home care services if:

1. the patient is physically homebound, except Part B which covers occupational, speech and physical therapies in outpatient settings,

2. has a medically unstable condition which requires the skilled services of a nurse or a physical, speech or occupational therapist, and

3. needs only intermittent, brief skilled services.

A patient who requires only supportive care such as bathing, personal hygiene, meal preparation, or standby assistance in ambulation cannot qualify for Medicare benefits. Only patients who require skilled services as well as supportive care quality for Medicare payment for the services of a home health aide.

1.3 Services and Settings

All home health agencies in the State of Montana are required to be licensed and certified by the Department of Health and Environmental Sciences. Licensed agencies providing home health care may be based in hospitals, long-term care facilities, county public health departments, or freestanding organizations; they may be for-profit or not-for-profit. Services may be provided through a variety of organizational arrangements. The agency may provide the service with its own staff. Some services may be delivered under a contract with another provider. Some services (usually those not reimbursed by third-party payors) such as those of a barber, cosmetologist, pastor, etc., may be arranged for on patient's request.

Private health insurance companies are entering the home care field in increasing numbers, with plans that provide different coverage. Some plans follow Medicare guidelines for the nurse and therapist, others still provide for the more traditional eight-hour private duty nursing care in which the nurse performs a multitude of different services including bathing the patient, preparing meals, light housekeeping, and related activities. While few private insurance programs do cover services by home health aides, homemakers or social workers, many of them do expect the RN or LPN to provide all those services and more during the long shift in the patient's home.

The wide variety of services and organizational arrangements in home health creates confusion among beneficiaries over the best source of financial assistance. Eligibility criteria also differ. The administrative confusion begins in the Federal Department of Health and Human Services where three separate entities have responsibility for handling home-related services. The organizations -- the Public Health Service, the Office of Long Term Care, and the Administration on Aging -- appear to function independently. Also, there is a vast number of services available through so many different government programs that effective coordination of all services is difficult.

In Montana, administrative responsibilities are divided among the Department of Health and Environmental Sciences, the Department of Social and Rehabilitation Services, and the Council on Aging. At the local level, 21 home health agencies provide services under Medicare and Medicaid, and 11 Area Agencies on Aging administer social services under Title III of the Older American Act, State General Fund, and House Bill 187 (H.B. 187) funds. Mental health/mental retardation service units can provide home care services to the mentally retarded. Child welfare agencies provide some homemaker services, and voluntary agencies such as the American Red Cross, Easter Seal Society, and March of Dimes directly or indirectly provide home care services.

Other methods of delivering health care services in settings other than hospitals and nursing homes are being developed. Nutritional guidance, medication monitoring, specialized therapy, socialization, respite care, etc., are being provided through adult day-care programs established in a variety of settings to provide less than 24-hour care. Medical supply firms are entering the field by offering to sell, deliver and adjust equipment for specialized care in the home (e.g., oxygen, dialysis, post-ostomy, intravenous feeding, etc.) and train family members in the operation of this equipment.

Hospice programs are being established to care for the needs of the terminally ill patient and his family.

The adoption of Diagnostic Related Groups for reimbursement of hospital billing may require more home care services.

Implementation of the "Medicaid Waiver" program in Montana will provide home care services in a new way.

Alternatives generate issues when quality of care and costs are considered. It is essential that new programs be required to meet the same standards required of established programs.

1.4 Trends

The birth of home care came in the mid-60's when Congress passed Medicare "conditions of participation" for home health agencies. These were subsequently revised in 1973, but the push to expand services came July 1, 1981, when the liberalized provisions of the Omnibus Reconciliation Act of 1980 took effect. Also, the Ophan Drug Act signed by President Reagan in January, 1983, authorizes $5 million in loans to proprietary agencies and grants to non-profit agencies to expand home health services in underserved rural and urban areas during fiscal 1983 and 1984.

This sudden flurry of federal interest in home health could be attributed to two factors: dollars and demographics. Analysts examining federal expenditures have recognized that health care costs, particularly for the elderly, will continue to spiral unless swift measures are taken. Many advocates of home health have claimed that these services constitute cheaper substitutes to institutionalization. Also, the impending boom in the aged population is of great concern to lawmakers and lobbyists.

The U.S. Census Bureau counted 25.5 million people over age 65 in 1980, including 9.9 million over age 75. The projection for the year 2000 is 30.6 million people over age 65 and 13.5 million over age 75. The Social Security Administration predicts that in 2030, the post World War II baby boom's generation may live on the average to age 91; the men to age 84. Currently, approximately 5.0 percent of all people age 65 and over live in extended care facilities; 9.5 percent of all people age 75 and over live in

such settings. If the delivery of long-term care continues as it is currently being provided, the nursing home industry might become overwhelmed and costs would continue to rise. Thus, the trend is shifting towards services in the home[3].

Also, the new schedule of Medicare reimbursement for hospitals based on Diagnostic Related Groups (DRG's), a system of paying according to specific illness rather than cost of treatment, is expected to put pressure on hospitals for early discharge of patients. This, in turn, is expected to result in greater demand for care in nursing homes or at home. It is expected that this trend would return hospitals to their traditional role as acute care facilities, rather than primary care centers.

Among the fastest growing home health agencies are the private, proprietary organizations[4]. Also seeing growth are provider or hospital-based agencies. These organizations have advantages over others because they can draw their home patients from their recently discharged institutional population. Growing at a relatively slower pace are the visiting nurse associations, which emphasize skilled care, often relying on charity and accepting all patients regardless of ability to pay[5].

Private, non-profit programs, once the fastest growing, have slowed down since Congress allowed for-profit agencies to participate in federal reimbursement programs. Finally, agencies that are operated by a governmental unit provide services to all patients, are located most often in rural or medically underserved urban areas and rely on taxes and charity for income.

A new phenomenon in home health agencies is the nursing home/home care agency combination. Providing a continuum of care for the elderly, such programs help divert patients from unnecessary institutionalization by providing long-term services in the home. So promising is the home market that disparate commercial ventures ranging from department stores to pharmacies to medical-surgical distributors are entering the field[6].

2.0 Current Situation

2.1 Availability

Figure 1 shows the location of licensed home health agencies and the areas currently being served in Montana. Currently 21 agencies provide services to 31 counties in the State. Nine are administered by county health departments, three are church-affiliated, eight are not-for-profit, and one is an investor-owned for-profit corporation. Six of the 21 agencies are hospital-affiliated.

Nine home health agencies serve multi-county areas. They are:

Area V Home Health Agency serving Deer Lodge, Beaverhead, Powell, and Madison Counties.

Yellowstone City-County Health Department (Visiting Nursing Service) serving Yellowstone, Big Horn, Carbon, Golden Valley, Musselshell, Stillwater and Sweet Grass Counties.

Blackfeet Tribal Home Health Service serving Glacier and Pondera Counties.

Dawson County Home Health Agency serving Dawson and Prairie Counties.

Montana Deaconess Medical Center Home Health Agency serving Cascade, Chouteau, and Judith Basin Counties.

West Mont Community Care, Inc., serving Lewis and Clark, Broadwater, Jefferson, Meagher, Park, Teton, and Wheatland Counties.

Flathead County Home Health Agency serving Flathead and Lincoln Counties.

Missoula City-County Health Department Home Health Agency, serving Missoula and Mineral Counties.

Figure 1
Location of Home Health Agencies in Montana — 1983

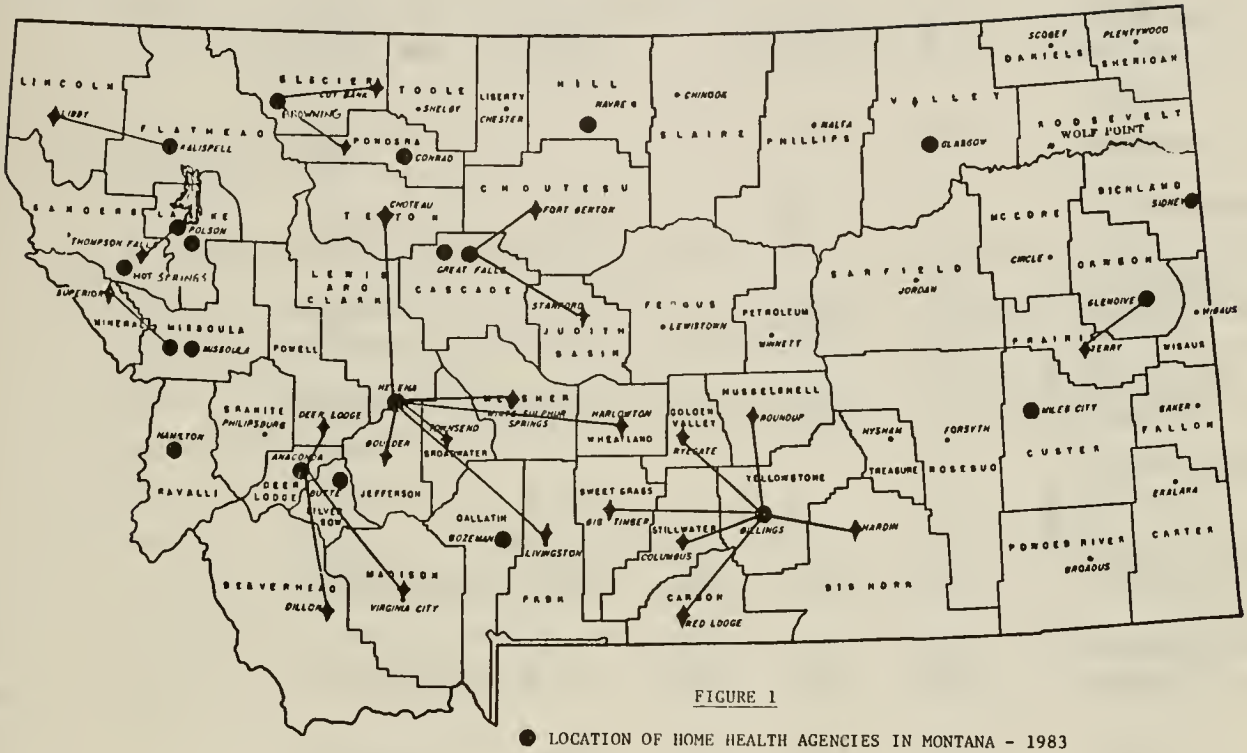


FIGURE 1

● LOCATION OF HOME HEALTH AGENCIES IN MONTANA - 1983

♦ Satellite Branches

SOURCE: Montana Health Systems Agency, Annual Survey of Home Health Agencies.

Table 1
Services Offered by Home Health Agencies in Montana

Subarea and Home Health Agency	Nursing	Homemaker/Home Health Aide	Physical Therapy	Occupational Therapy	Speech Therapy	Medical Social Services	Nutritional Guidance	Respiratory Therapy	Pharmaceutical	Clinical Laboratory	Equipment & Supplies	Transportation	Other
	Number of Visits												
REGION I													
Dawson County Home Health	761	569	10	--	--	--	--	--	--	--	--	--	895
Frances Mahon Home Health	755	NOT AVAILABLE											
Holy Rosary Hospital Home Health	3711	--	155	91	--	AN	AN	AN	AN	AN	AN	--	2234
Richland County Home Health	2079	641	--	--	--	--	--	--	--	AN	AN	--	1274
REGION II													
Blackfeet Home Health Service	1808	748	19	--	130	--	--	--	--	--	--	--	--
Columbus Hospital Home Health	1657	236	60	22	--	12	N/A	N/A	--	N/A	N/A	--	--
Montana Deac. Med. Ctr. Home Health	3539	1859	30	1	65	N/A	N/A	N/A	N/A	3	N/A	N/A	N/A
Pondera County Home Health	683	243	--	--	--	--	--	--	--	--	--	--	768
REGION III													
Yellowstone City-County Health Visting Nurse Service	4810	2080	650	142	93	3	--	--	--	--	--	--	--
REGION IV													
Area V Home Health Agency	2151	506	312	--	--	--	--	--	--	--	--	--	--
City-County Home Health Service	9680	4210	1807	--	79	113	--	--	--	--	N/A	--	--
Gallatin County Home Health	572	2728	71	--	0	--	--	--	--	--	N/A	--	--
West-Mont Community Care, Inc.	12276	6314	2592	302	654	109	AN	41	--	--	N/A	--	--
REGION V													
Clark Valley Hospital Home Health	121	--	8	--	--	--	AN	--	--	--	--	--	--
Flathead County Home Health	1940	1899	563	--	164	--	--	--	--	--	--	--	--
Lake County Home Health	2252	1119	193	--	--	--	--	--	--	--	--	--	--
Missoula Community Hospital Rehab. Ctr.	720	--	1283	148	69	14	--	--	--	--	--	--	--
Missoula City-County Health Dept. (HHA)	2884	--	205	0	--	--	--	--	--	--	--	--	1479[a]
Ravalli County Home Health	916	388	188	--	45	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
St. Joseph Home Health Care	740	167	32	0	19	3	AN	AN	--	--	AN	--	844[a]

[a]Home Health Aide.
N/A Information not available.
AN Provided as needed.

SOURCE: Montana Health Systems Agency

St. Joseph Home Health Agency serving Lake and Sanders (Hot Springs) Counties.

Table 2 shows utilization figures for Montana Home Health Agencies for fiscal year 1983.

2.2 Accessibility

A major constraint in providing home health care in Montana is the distance between the agency and the patients. The sparsely-populated rural nature of much of Montana necessitates a great deal of travel time to deliver home care. Therefore, a good share of the cost for providing services is accrued in travel.

The small population base and geographical expanse of Montana combine to stretch the care given and the financial resources. It is, therefore, not practical to have a home health agency in every county. Figure 1 shows the location and catchment areas of home health agencies in Montana during 1983.

2.3 Cost

Although health care services delivered in the home may sometimes be less costly than services delivered in other settings, home care should not be considered a "cheap substitute." As one component of the health care system, delivery of services in the home serves to supplement acute care in hospitals, long-term care in nursing homes and rehabilitative care in specialized or general therapy settings. The emphasis of home care is on promotion of self-care skills whereas institutional care tends to promote dependency.

To improve accessibility to home health care programs without escalating cost, further development of agencies serving multi-community or multi-county areas through branch units (without administrative personnel) is encouraged. This strategy provides a larger population base, allowing agencies to provide a more comprehensive offering of services and reduce

Table 2
Utilization/Cost Data — Licensed Montana Home Health Agencies FY 1983

Subarea and Agency	Location	Total No. Patients Served	Total Visits	Skilled Nursing Visits	Medicare Visit	Average Visits/ Patient	Total Cost of Operation	Cost/ Nursing Visit	Average Cost/ Visit	Average Cost/ Patient	Percent Medicare Revenue	Medicare Revenue
		a	b	b	b	*	a	b	*	*	a	*
Northwestern												
Ravalli County Public Health	Hamilton[a]	137	1,537	916	1,537	11.2	144,140	99	94	1,052	35	50,449
Missoula City-Co. Health Dept.	Missoula	185	4,546	2,675	1,620	24.6	125,837	34	28	680	40	50,335
Missoula Rehabilitation Center	Missoula	129	2,234	720	1,574	7.3	106,218	80	47	823	76	80,726
Flathead Co. Home Health Agency	Kalispell	198	4,566	1,940	2,484	23.0	112,240	33	25	557	60	67,344
St. Joseph Home Health Agency	Polson	85	1,987	740	1,729	19.0	41,297	66	25	486	46	18,997
Lake County Home Health Agency	Polson	207	3,564	2,252	1,649	17.2	86,490	33	24	418	48	41,515
Clark Fork Valley Hospital	Plains	15	117	110	115	7.8	5,582	67	48	372	98.5	5,498
North Central												
Montana Deac. Medical Center (HHA)	Great Falls	1,553	5,497	3,539	4,046	3.5	179,658	42	33	116	84	150,913
Columbus Hosp. Home Health Agency	Great Falls	308	1,987	1,657	1,729	6.5	NR 60,000	26	33	195	87 NR	52,200
Blackfeet Home Health Agency	Browning	71	2,686	1,808	1,449	37.8	27,630	35	10	389	57	15,749
Pondera County Home Health Agency	Conrad	103	1,451	683	388	14.0	27,946	28	19	271	56	15,650
Rocky Boy Home Health Care Ser.	Box Elder	---------- NOT REPORTING ----------										
Southwestern												
Area V Home Health Agency	Anaconda	----------					134,741	35	----------			
City-County Home Health Agency	Butte	575	15,889	9,660	14,296	27.7	521,498	29	33	907	90	469,348
West Mont Home Health Care, Inc.	Helena	1,203	22,258	12,276	13,747	18.5	875,821	35	39	728	67	586,800
Gallatin County Health Dept.	Bozeman	146	643	572	300	4.4	52,316	60	81	358	18	9,417
South Central												
Yellowstone City-County Health Dept. - Visiting Nurse Service	Billings	532	7,778	4,810	3,412	14.6	288,434	40	37	542	48	138,448
Eastern												
Nursing Care in the Home	Sidney[a]	118	3,964	NR	NR	33.6	131,981	NR	33	1,118	2	26,396
Holy Rosary Hosp. Home Health Ser.	Miles City	80	6,100	3,711	5,916	76.3	85,220	29	14	1,065	95	80,959
Frances Mahon Deac. Hospital (HHA)	Glasgow	40	755	755	667	18.9	24,196	48	32	605	95	22,986
Dawson County Home Health (HHA)	Glendive	222	1,340	761	588	6.0	56,556	47	42	250	79	44,679
TOTALS (+)		5,907	88,899	49,805	57,246	19.6	$3,087,801	$43	$37	$ 576		$1,928,409

[a]Annual Survey of Home Health Agencies.
[b]Blue Cross of Montana.
NR Not Reported.
*Estimates.
(+) Does not include Area V Home Health Agency, Anaconda.

SOURCE: Blue Cross of Montana.

administrative costs per patient. This concept is being used successfully by both large and small agencies.

The estimated 1983 expenditures for the 21 home health agencies operating in Montana was $3,087,801.00. Average cost per patient was $745.00. Medicare reimbursement totaled $1,928,409.00 in fiscal year 1983, 56.0 percent of total operating costs. Average charge per visit was $49.81 for all agencies (Table 3). Table 4 shows the cost per visit computation for each service by agency categories. The charge per visit for skilled nursing services averaged $50.27 for all agencies. Homemaker/Home Health Aide average charge per visit for all agencies was $20.86.

3.0 Future Resource Requirements

3.1 Availability

Montana law requires all agencies delivering skilled nursing services and one additional therapeutic service in the home to be licensed. As a result of this legislation, all prospective agencies and existing agencies wishing to expand their services and/or their scope of services must apply to the State Health Planning and Resource Development Agency of the Department of Health and Environmental Sciences for a Montana Certificate of Need. The purpose of the following remarks is to set forth Montana Health Systems Agency policy toward home health care and to establish review criteria for future development of home health care agencies.

In estimating service needs, the Governor's twelve planning districts (County Commissioner Districts) and five regions are used as a geographical base. This does not suggest that home health agencies should be organized according to these districts. Each agency should determine how large an area it can adequately serve given personnel, distance, and cost constraints.

There are several methodologies currently in use to predict need for services in the home. However, it is difficult to establish uniform case loads since each agency has unique features (clientele, professional

Table 3

Home Health Agency Services: Number of Persons Served and Number of Visits

Type of Agency	Persons Served	Number	Visits Per Person Served	Average Charge Per Visit
All Agencies	3,748	90,083	24.0	49.81
Government	1,775	31,798	17.9	57.88
Hospital-based	1,887[a]	15,951	8.5[a]	45.61
Proprietary	15	129	8.6	52.00
Private Nonprofit	71	42,205	---	43.41

[a]Does not include Columbus Hospital Home Health.

SOURCE: Montana Department of Health and Environmental Sciences, Unpublished Annual Survey of Home Health Agencies.

Table 4
Home Health Agency Services: Cost Per Visit Computation

Services	CHARGE PER VISIT						
	All Agencies			Government	Hospital-based	Proprietary	Private Non-Profit
	High	Ave.	Low				
Skilled Nursing	99.00	50.27	24.00	44.85	48.83	67.00	40.39
Physical Therapy	86.00	38.64	27.00	36.51	34.45	37.00	46.60
Speech Therapy	81.00	44.31	24.00	50.97	40.03	--	41.92
Occupational Therapy	94.00	59.66	18.00	94.55	22.66	--	61.78
Medical Social Services	212.00	85.09	21.00	96.96	106.82	--	51.49
Homemaker/Home Health Aide	39.00	20.86	9.00	23.45	20.86	--	18.27
Laboratory		436.00		--	436.00	--	--

SOURCE: Blue Cross of Montana Cost Report (OMB Form No. 0938-0022).

resources, funding capability, population density, etc.) which must be considered in developing the estimates. Table 5 shows the projected need in each planning district.

Based on these estimates, it appears that the areas having the greatest potential for development (and/or the greatest need) are:

-- District 1 - Although Valley County is currently being served, the Wolf Point, Culbertson, Scobey and Plentywood areas could probably support a regional agency.

-- District 2 - Dawson County Home Health Agency has a branch office serving Prairie County. Further networking might be possible.

-- District 4 - Hill, Liberty and Blaine Counties.

-- District 5 - The Pondera County Home Health Agency has been established and could serve as a model or starting point for expanded services.

3.2 Accessibility

In addition to the five districts specified in Section 3.1, other agencies should also consider expanding their service areas by establishing branch offices in surrounding counties. Most of the rural counties do not have a population base large enough to support a full-fledged agency, but might contribute to the viability of regional agencies.

3.3 Cost

After need has been established, financial feasibility (potential revenue versus projected expenses) and available resources (personnel, transporta-

Table 5
Estimated Need for Home Health Agencies in Montana by 1990

Planning Regions	1990 Population	Estimated Home Health Patients	No. of HHA Currently Serving the Area
Region 1			
District 1 - Phillips, Valley, Daniels, Sheridan & Roosevelt Counties	33,800	406	1
District 2 - Garfield, McCone, Dawson, Richland, Prairie & Wibaux Counties	32,500	390	2
District 3 - Treasure, Rosebud, Custer, Powder River, Carter & Fallon Counties	35,400	425	1
Region 2			
District 4 - Liberty, Hill & Blaine Counties	28,100	337	0
District 5 - Glacier, Toole, Pondera, Teton, Chouteau & Cascade Counties	122,100	1,465	3
Region 3			
District 6 - Judith Basin, Fergus, Petroleum, Musselshell, Golden Valley & Wheatland Counties	24,000	288	2
District 7 - Yellowstone, Stillwater, Sweetgrass, Carbon & Big Horn Counties	165,800	1,990	1
Region 4			
District 8 - Lewis & Clark, Jefferson & Broadwater Counties	62,600	751	1
District 9 - Gallatin, Park & Meagher Counties	64,900	779	2
District 12 - Powell, Granite, Silver Bow, Deer Lodge, Beaverhead & Madison Counties	69,600	839	2
Region 5			
District 10 - Lincoln, Flathead, Sanders & Lake Counties	107,000	1,284	4
District 11 - Mineral, Missoula & Ravalli Counties	114,100	1,369	3

SOURCE: Montana Health Systems Agency.

tion, equipment, space, record keeping, etc.) must be carefully weighed to determine the extent of services to be offered. Although Medicare reimbursement accounts for the lion's share of revenue for most existing agencies, other means of funding must be sought (county support, grants, donations, etc.). Agencies should be prepared to stay in business for at least a year before start-up costs can be recouped from cash flow.

4.0 General Analysis

4.1 Alternatives and Issues

Funding: This is a major problem for home health agencies in Montana. Because of the restrictions on reimbursements by Medicare, Medicaid and other third-party payors, many agencies suffer from reimbursement lags. It would be helpful if Medicare and Medicaid could institute a semi-annual or quarterly reimbursement schedule in place of the current annual payment schedule.

Also, there are some third-party payors who still do not offer home care coverage but the situation is rapidly improving.

Physician Support: Another problem some home health agencies encounter is obtaining crucial physician support and referrals. Physicians are often unaware of the programs or are unwilling to participate in them. Since physician referral and approval of individual care plan is essential for successful implementation of home health care, it appears physician education programs may be warranted. Educational efforts are also apparently needed to inform the public as well. Many prospective clients appear to associate home health services with welfare programs and are uninformed as to what services and/or payment mechanisms are available.

Cost: One of the thorniest issues surrounding home care is whether or not it is a less expensive alternative to traditional care. So far, the answer is inconclusive. Many observers of and participants in home care programs contend that any service that keeps people out of hospitals and nursing homes has to save money and improve the quality of life for the patient.

In 1981, the General Accounting Office (GAO) studied a dozen home health demonstration projects and concluded that "the elderly should benefit from expanded home health care, but increasing these services will not insure cost reduction." While the GAO agreed that home care increased elderly longevity and life satisfaction, it did not decrease hospital or nursing home utilization. If anything, expanded home care services were an addition to, rather than a substitute for, currently available forms of care because they are targeted to an at-risk population, rather than the acutely or chronically ill.

Part of the confusion on the cost-effectiveness of this much-needed service arises from the methods of cost analysis that have been used. A great many of the cost comparison studies compared apples with oranges. In any analysis of program costs, it is important to consider the total costs (both direct and indirect), and to specify who it is that pays them. Frequently these issues are ignored and dollar figures are presented without any designations as to where they came from.

In a move from institutional care to home care, a majority of patients who would be rehabilitated at home are those who have been or would have been inappropriately placed in an institution for various reasons. The potential to remedy this system's malady through expanded home care cannot be questioned. However, patients who require institutionalization cannot and should not be placed in a home care program. Any attempt to compare the cost of care for these separate and distinct populations would be an inappropriate comparison. In a move towards home care, some of the savings in Medicaid funds, for example, will have to be assumed by the family. The family can assume these costs in many ways. One way is by supplying the labor involved in routine care, which would otherwise have been provided by paid employees of the institution. Since family members do not receive remuneration for services rendered to relatives under current programs, they bear part of the cost of home care.

Another cost borne by family members is what economists refer to as "opportunity costs." This is a loss of earning potential because of family commitments. If a bank president were to remain at home (even for just one week) to look after his or her parent, how would these costs be calculated?

Would the cost of that service be free? Would it be the cost of a homemaker or the cost of a banker managing a financial institution? The loss of productivity of that bank president is a loss to the economy in general. Also, society may bear other costs as well. A British study found that rents increased with the initiation of the home care program as a result of increased competition for housing in the community[7].

A second level of cost analysis that should be considered is the cost to the public. Reducing the nursing home population and increasing the level of home care services would likely reduce the amount of Medicaid expenditures and, if the cost analysis involved savings to Medicaid only, nursing homes would appear to be more expensive. But that is clearly a biased analysis since other public programs come into play when a person leaves an institution. Supplemental Security Income Payments will increase, and the person may utilize Title VII food programs, public transportation, public housing, and many other programs that subsidize people living in a community. What may occur is a shift of the cost burden from one group of programs to another with a zero reduction in cost. Although Medicaid administrators may enjoy the relief on overburdened Medicaid budgets, they will not be justified in claiming that home health care costs less.

A third level of cost analysis is the impact of expanded home care on nursing homes. It has been suggested that home care programs would probably siphon off the less difficult patients who require less care, leaving nursing homes with an increasing proportion of more seriously disabled persons, and that this population shift would lead to even higher average cost per resident.

Some observers have pointed to the findings of demonstration projects that seem to indicate that home care is less expensive. However, few demonstration projects, if any, have had their findings replicated in the real world and the reason is quite obvious. The stringent requirements, rigid controls, and high level of coordination that exists in a demonstration project do not exist under everyday working conditions.

Many aspects of home health care provide sufficient justification for its advocacy. Cost should not be the primary reason. If nursing homes were

found to be cheaper, would it make sense to have a public policy to send everyone to nursing homes? Home health care may be the preferred method of care delivery but it also may be more expensive depending on the extent and number of services provided.

Coordination of Services: One of the major barriers to utilization of home health care is inadequate coordination of, and lack of continuity of health services. The problems of coordination include fragmentation within the health systems; inability of individual and family to deal with the complex and fragmented service array; and inadequate communication and linkages between health and social services. This fragmented service delivery system promotes duplication of services and inefficient utilization of time, manpower, and resources. Current funding arrangements through Medicare, Medicaid and Title III for home health care also impede the coordination of health and social care delivery.

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RECOMMENDED CRITERIA FOR REVIEW

These criteria are based on the preceding plan and are to be applied with the review criteria established by law and rule. All review criteria in MCA 50-5-304 and ARM 16.32.110 may be applied, but the following specific criteria are established for home health agencies:

1. Each proposed new home health agency or one proposing to expand the number of services offered or the geographical service area must demonstrate financial stability (sufficient cash flow to guarantee at least the first year of operation).

2. Applicants for establishment of new agencies, expansion of geographic areas or of services provided must document the local (referral and supervisory) availability of manpower, such as physicians, nurses, aides, home chore workers, specialized therapists, etc.

3. All new agencies must guarantee that they will serve all segments of the population and not intentionally restrict services to any specific group, regardless of ability to pay.

4. Any agency wishing to provide services within the established geographical service area of an existing agency should prove that it will not adversely impact or endanger the financial stability of the existing agency nor increase patient or community costs.

5. Agencies proposing to initiate or expand services must show support from referral sources and document coordination of in-home services with other care-givers in the communities to be served (hospitals, nursing homes, health departments, physicians, mental health centers, etc.).

6. Applicant agencies must prove that existing agencies cannot or will not provide services to the target population.

HOSPICE CARE PROGRAMS

Goal:

Hospice care services in Montana should be available to persons with life-threatening disease and their families and provide for the spiritual, physical, psychological and social needs to help them maintain the fullest and best possible quality of life.

Objectives:

1. By 1985, the State Department of Health and Environmental Sciences (DHES), in conjunction with the Montana Hospice Exchange Council, should design and conduct a study to determine the impact of hospice programs in Montana on the existing health care delivery system. This study should address:

   a. relationship of cost to and analysis of the hospice models in use,

   b. public acceptance and patient acceptance,

   c. utilization of service and delivery settings, and

   d. financial and reimbursement issues.

2. The Montana Health Systems Agency (MHSA) should encourage the efforts of the Montana Hospice Exchange Council and maintain liaison with the Council.

Action:

1. By 1985, a data collection methodology should be developed and the participation of all hospice programs solicited to collect the data.

1.0 Background

The concept of hospice is an ancient one. Fabiola, a disciple of Saint Jerome, established one in the port of Rome nearly 2,000 years ago.[1] Since that time the concept of establishing a center which provides hospitality, refreshment and fellowship to the sick and the needy has existed throughout Europe. In Dublin in the mid-19th century, Mary Aikenhead, considered to be the founder of Hospice as it is known today, founded a religious order, the Irish Sisters of Charity, whose task was to care for the dying.

At the turn of the century, many English hospices were developed by religious orders, but the modern concept of hospice emerged when Dr. Cicely Saunders became the medical officer at St. Joseph's Hospice in London during the 1950's. In 1967, Dr. Saunders opened the first hospice, St. Christopher's Hospice, a 54-bed inpatient facility, outside London.[2] The first American hospice (established in 1974) was the Hospice of New Haven, Connecticut,[3] and it is estimated that approximately 1,200 hospice programs were operating in the United States as of mid-1983.

1.1 Service Definition

In an effort to achieve a uniform hospice concept, the National Hospice Organization's (NHO) Committee on Standards and Accreditation developed a definition of hospice, from which ten basic components to hospice were developed:

> Hospice is a medically directed, nurse coordinated program providing a continuum of home and inpatient care for the terminally ill patient and family. It employs an interdisciplinary team acting under the director of an autonomous hospice administration. The program provides palliative and supportive care to meet the special needs arising out of the physical, emotional, spiritual, social and economic stresses which are experienced during the final stages of illness and during dying and bereavement.

The ten components to hospice care identified by Dr. Sylvia Lack, co-founder of the first American Hospice (Hospice of New Haven, now called Hospice, Inc.) are:

1. coordinated home care with inpatient beds under a central autonomous hospice administration,

2. control of symptoms (physical, sociological, psychological, spiritual),

3. physician-directed services (due to the medical nature of symptoms),

4. provision of care by an interdisciplinary team,

5. services available 24 hours a day, 7 days a week, with emphasis on availability of medical and nursing skills,

6. patient and family regarded as the unit of care,

7. provision for bereavement follow-up,

8. use of volunteers as an integral part of the interdisciplinary team,

9. structured personnel support and communication systems, and

10. patients accepted into the program on the basis of health care needs rather than ability to pay.[4]

According to NHO and Dr. Lack, unless a hospice incorporates this definition and embodies the above components, it is not a true hospice. However, legislation does not yet exist to enforce these standards.

In Montana, hospice care programs may best be defined as coordinated programs of home and inpatient health care which treat the terminally ill patient and family as a unit, employing an interdisciplinary team of professionals and volunteers to provide palliative and supportive care to meet the special needs arising out of the physical, psychological,

spiritual, social and economic stresses which are experienced during the final stages of illness, dying and bereavement.

Characteristics of Hospice Programs

An understanding of the hospice concept is fundamental to hospice planning issues. Hospice care represents an alternative to traditional hospital and nursing home care. These latter modes of care delivery maintain a different emphasis: acute hospital care stresses treatment and rehabilitation with the expectation of curing the patient, while nursing home provides long-term habilitation and rehabilitation for chronically ill patients. Neither of these health care delivery modes, however, provide the pain management, symptom control, and psychological support which many terminally ill patients require. Furthermore, hospitals and nursing homes rely almost exclusively on employees for the provision of patient care. Hospice care is provided by staff, family members, and volunteers in the home or in a home-like environment. Hospice focuses on palliative care. With the goal of maximizing the quality of life, hospice services try to keep the terminally ill patient comfortable and as free of pain as possible.

The overall objective of the hospice approach is, therefore, to address the total needs of the patient and family which arise as a result of the dying process. The hospice approach stresses flexibility: the actual mix of services provided to the patient and family should reflect the specific circumstances and needs of the patient.

1.2 Services and Settings

Service to the hospice patient and family may be identified as having three components: medical management, support services, and educational services.

One aspect of hospice care is to alleviate pain for the terminally ill patient. Therefore, care is directed toward making the patient as comfortable as possible through palliative modalities. Curative treatments are provided insofar as they provide patient comfort and prevent secondary illnesses. Although surgery and radiation are occasionally used as methods

for controlling pain, the general practice of these two techniques is not accepted by all hospice programs as an integral component of pain control program.

Support services are offered to the terminally ill patient and family to cope with the numerous stresses and adjustments arising from the impending death. Under the hospice concept, the familial unit may consist of any individual affected by or essential to the care program. Support services include, but are not limited to:

-- bereavement: services provided to the family after the patient is deceased,

-- respite care: care provided to the patient to accord the family a period of rest,

-- counseling and emotional support provided to all affected by the impending death,

-- spiritual services intended to aid the patient and affected individuals to cope with death,

-- housekeeping services: the availability of this support may be a determining factor as to whether the patient can continue to reside at home, as opposed to care rendered in an inpatient unit,

-- transportation: patients may be maintained at home if transportation is provided or arranged to physician's office or outpatient clinic, and

-- information and referral services: surviving members may require financial or legal assistance in making funeral arrangements or the patient may need assistance in preparing a will.

The third component of hospice care -- educational services -- serves three primary functions: 1) education of patient, family and all involved, including the patient care team and ancillary personnel, on the process of

death and dying, 2) education of the family as to the techniques of care for the patient at home, and 3) public education as to attitudes toward death and dying.

Models of Hospice Care

As an evolving mode of health care delivery, hospice programs differ with regard to the nature, scope, and intensity of services they provide. Since hospice represents a continuum of care, hospice services may be offered on a home care, outpatient, or inpatient basis. Although the types and frequencies of services provided vary from patient to patient and among hospices, most programs focus on home care. Some hospices also offer various outpatient services to patients who are not totally bedridden or to families for group counseling and other social services. Inpatient care should be available to hospice patients when pain or symptom control is needed, when primary care givers are unavailable in the home, or when families require temporary relief from care giving.

Most American hospice programs can be categorized into five types of models: freestanding autonomous hospice; freestanding hospice with a hospital affiliation; hospice unit within a hospital; hospice teams within a hospital; and home care only.[5] Some of the characteristics basic to these five models are outlined in Figure 1. While the multidisciplinary team approach and a home-care focus are common to the various models, different arrangements are made for the provision of inpatient care. Recently, several new types of hospice models have been encountered. These include hospice with nursing home affiliation, hospice unit shared among two or more hospitals, a statewide affiliated organization, and hospice resource center.[6] The organizational model of hospice that is selected may be a function of the geographic service area and of the community organizations with an interest in the hospice concept. Thus, while the five most common models have been described, it should be noted that no two hospices are exactly alike and that there are probably as many hospice models as there are hospices.

As the hospice definition offered by NHO would suggest, the ideal hospice model is a freestanding, multi-level hospice that would allow the patient

Figure 1
Characteristics of United States Hospice Models

Model	Characteristics
Freestanding Autonomous Unit	Multidisciplinary team providing care 24 hours per day; flexible visiting rules; home-like environment; usually combined with home care program; substantial construction or renovation costs; high percentage of paid staff; admissions usually limited to days or weeks immediately preceding death; requires certificate of need (CON) and licensing; may be more difficult to obtain third-party reimbursement than other models.
Freestanding Facility With a Hospital Affiliation	Same as freestanding autonomous unit except that the hospital affiliation may preserve for the program the tax and reimbursement advantages of the parent institution; requires CON and licensing.
Special Unit Within a Hospital	Multidisciplinary team providing care 24 hours per day; flexible visiting rules, which may be constrained somewhat by normal hospital routines; usually combined with a home care program; may involve substantial renovation costs; high percentage of paid staff; admissions may come largely through referrals from acute care wards of the hospital; third-party reimbursement available through the hospital; generally requires CON.
Hospice Team Within a Hospital	Multidisciplinary team providing care to patients distributed throughout hospital; little or no renovation cost; hospital atmosphere; visiting hours may be somewhat constrained; high percentage of paid staff; third-party reimbursement through normal hospital channels; probably no additional CON or license are required.
Home Care Only	Multidisciplinary team members visiting periodically and responding to calls for assistance; high percentage of volunteer staff; services may be offered through or in cooperation with existing community agencies (e.g, visiting nurses association, home health agencies); third-party reimbursement is dependent on type of service and type of provider; may require CON and/or license; may affiliate formally or informally with a hospital to provide backup beds initially and may develop own inpatient component eventually.

SOURCE: U.S. Department of Health and Human Services, Bureau of Health Planning, Hospice Program.

to move back and forth from an inpatient facility to a home care program depending on the patient's need. The major difficulty with this model is that of licensure and reimbursement. Lo-Yi Chan, architect for Hospice, Inc., believes that hospice care can best be accomplished in a separate institution. There are, however, those who would disagree with this ideal. Many people involved in the hospice movement feel that a separate facility is not feasible in many communities and that hospice care must be integrated into the mainstream of medicine in order to be effective. Balfour Mount of the Palliative Care Service at Royal Victoria Hospital says, "it's not feasible to build, run, and staff enough freestanding hospices to begin to satisfy the need."[7] The current hospice definition allows freedom as far as determining which model best fulfills the services needed; however, the debate continues. Determination of cost efficiency is one method of assessing feasibility, but adequate data are not yet available.

1.3 Trends

The concern for "good death" has lead to the emergence of the hospice movement. Hundreds of communities have programs underway or in the planning stages, and teaching programs have been initiated by several of these hospices.

Following a special hospice demonstration project conducted by the Department of Health and Human Services (DHHS) in which 26 hospice programs were allowed special exemptions from Medicare and Medicaid rules and regulations, DHHS concluded that hospice services for the terminally ill are less expensive than acute care hospital treatment for the same services.

On November 1, 1983, a new law signed by President Reagan became effective. The new law, the Tax Equity and Fiscal Responsibility Act of 1982, extends Medicare coverage to hospice care. As a result of the new hospice reimbursement legislation, hospice care is now accepted as a legitimate component of the health care system.

2.0 Current Situation

2.1 Availability

In Montana, twenty hospices are either in the development or early operational stages of service delivery. As of March 1984, nine of the hospices have been licensed by the Licensing and Certification Bureau of the Department of Health and Environmental Sciences. One application is pending, subject to Certificate of Need (CON) review. Table 1 shows the location of the nine licensed hospices and the services they offer.

2.2 Accessibility

Figure 2 depicts the geographic distribution of the licensed hospice programs in Montana.

The long-range growth and success of a hospice program clearly depends on the availability of adequate funding. Hospice programs have been funded through two primary sources: private funding sources (including individual, foundations, and parent organizations) and third-party payor reimbursement through public and private insurance programs. A 1980 survey of 24 hospices suggested that the funding mix varied from program to program. For example, private donations to individual hospices ranged from $1,000 to $528,000 annually.[8] Similarly, the extent to which hospice operations are funded through third-party reimbursement has varied between programs and over time.

Obtaining third-party reimbursement from public and private payors has presented a substantial obstacle to a large number of hospices. The reluctance of third-party payors to cover hospice care has been motivated by two major factors. First, hospice care could potentially represent an additional, rather than a substitutive, health service. Terminally ill patients who may otherwise rely on an informal support system to render home care may seek hospice care, once these services are covered. Thus, the insurer's total payout would be increased. Both public and private payors have, therefore, wanted to evaluate the experience of early hospice programs and demonstration projects before committing themselves to funding hospice care.[9] Secondly, hospice care encompasses more than the medical services which are traditionally covered by health insurance. Both non-medical services to the patient (e.g., homemaker services, transportation)

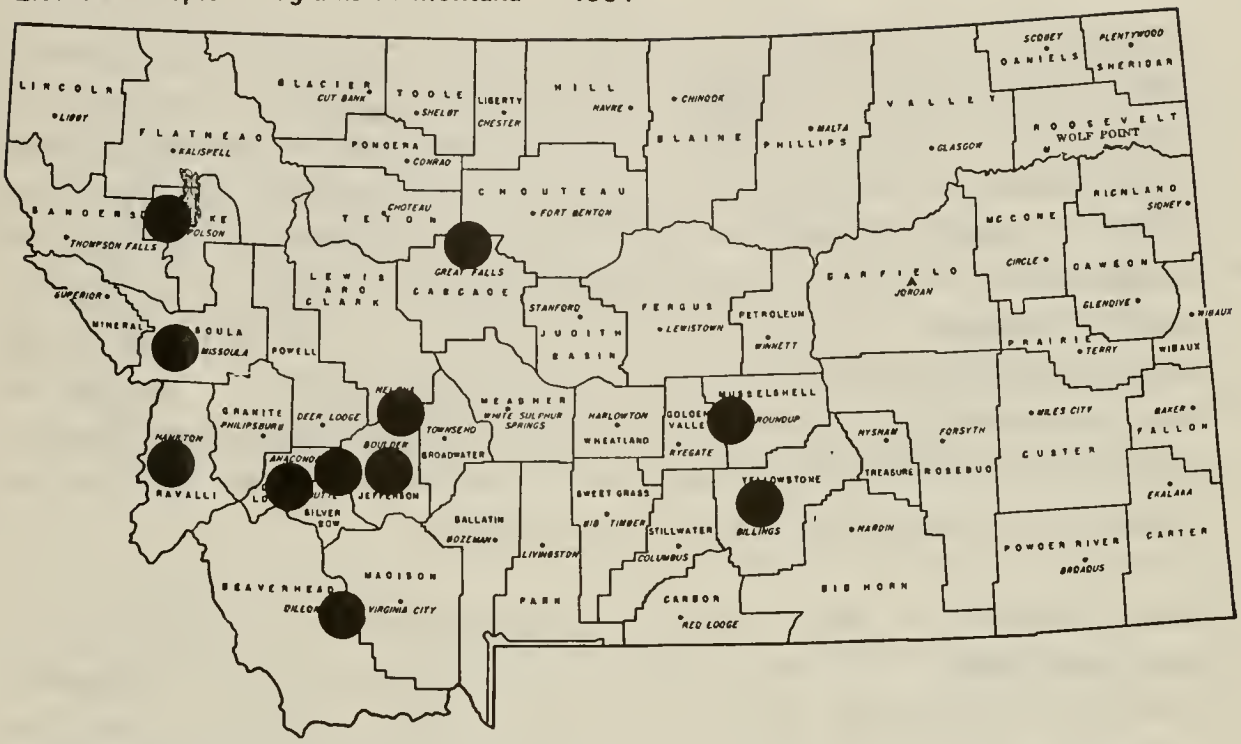
Table 1
Licensed Montana Hospices and Services Offered — 1984

Region	Hospice	Service Mode	Service Area	1984 Estimated Budget ($)	SERVICES OFFERED: Client Case Load	Nursing	Counseling	Housekeeping	Transportation	Bereavement	Spiritual	Respite Care	Information & Referral	Funding Source
North Central	Columbus Hospital Hospice, Great Falls	Hospital Dept.	Cascade Co.	Hosp. Budget	64	+	X	X	X	X	X	X	X	Hospital
South Central	Helping Hands Hospice, Roundup	Independent	Musselshell Co.	$50	18	+	X	X	X	X	X	X	X	Donations, Memorials, Fundraising
	Big Sky Hospice Billings	Home Health Agency Affl.	Yellowstone Co.	47,000	133	+	X	X	X	X	X	X	X	Govt. Grant, Donations, Memorials, United Way Contributions
Southwestern	Hospice of St. Peter's Helena and Boulder	Hospital Dept.	Hospital Service Area	Hosp. Budget	64	+	X	X	X	X	X	X	X	Donations, Hospital, Memorials
	Highlands Hospice Butte	Home Health	Silver Bow Co.	29,000	27	+	X	X	X	X	X	X	X	Donations, Memorials, United Way, Membership
	Anaconda Pintler Hospice, Anaconda	Independent	Deer Lodge & Powell Co.	32,000	12	+	X	X	X	X	X	X	X	Donations, Memorials, Contributions, Membership
Northwestern	St. Joseph's Mission Mtn. Hospice, Polson	Home Health	Lake & Sanders Co.	Hosp. Budget	3	+	X	X	X	X	X	X	X	Donations, Memorials, Contributions
	Hospice of the Bitterroot, Hamilton	Independent	Ravalli Co.	N/A	19	+	X	X	X	X		X	X	Donations, Memorials, Contributions
	Hospice of Missoula	Independent	Missoula Co.	$0,000	68	+	X	X	X	X	X	X	X	City, Church, Donations, United Way, Fundraising

+Nursing Services provided through contracts with other agencies.

SOURCE: Montana Health Systems Agency, Survey of Hospice Programs.

Figure 2
Licensed Hospice Programs in Montana — 1984



SOURCE: Montana Department of Health and Environmental Sciences, Licensing and Certification Bureau and Montana Health Systems Agency.

and to the family (e.g., education in care giving, bereavement counseling) constitute integral components of the hospice concept.

A third concern expressed by third-party payors relates to the absence of uniform accreditation standards and inconclusive data on the costs of hospice care. Private insurers are concerned about developing sound reimbursement methodologies and are still experimenting and evaluating different payment arrangements for hospice care providers. One specific reimbursement issue which insurers need to address concerns the reimbursement of different providers of like services (e.g., hospitals and nursing homes providing inpatient respite care to hospice patients). Insurers are also concerned about establishing incentives that encourage sound financial management of the hospice, appropriate utilization of hospice services, and adequate recordkeeping by hospice care providers.

Recent advances in both public and private reimbursement of hospice care have come about. With the passage of the Tax Equity and Fiscal Responsibility Act which became effective November 1, 1983, it is anticipated that private carriers will follow suit in extending benefits to hospice care. However, the Tax Equity Act contains a sunset clause withdrawing the benefit in October of 1986.

According to the regulations issued on December 16, 1983, the new hospice benefit is available to those Medicare beneficiaries with a life expectancy of less than six months.[10] Both the patient's attending physician and the hospice medical director must agree on this prognosis. In selecting the hospice option, the patient must sign a statement which waives the right for traditional curative treatment. Hospice benefits cover two 60-day and one 30-day "election" periods of care. The patient may at any time drop the hospice option and resume eligibility for traditional Medicare coverage. However, the remaining days of hospice care in the current election period of care are then forfeited. The patient would still be eligible for the days of care in the other election periods, should the patient wish to return to hospice care. Furthermore, the patient may switch hospices once in each election period. The regulations require a hospice to continue providing services to a Medicare patient who requires care after the three

election periods have expired, even if the patient is unable to pay for the services.

The services covered under the Medicare hospice benefit include nursing and physician services; counseling and medical social services; physical, occupational, and speech therapies; home health aide and homemaker services; medical supplies and appliances, including drugs; and short-term inpatient acute care and respite care. Patients are required to pay the lesser of $5 or five percent for drugs and a five percent co-payment for respite care. The responsibility for collecting co-payments lies with the hospice. Although bereavement counseling for families is not covered, Medicare requires participating hospice programs to provide this service.

The regulations have placed limits on the number of hospice inpatient days. The individual Medicare hospice patient is limited to five consecutive days of respite care. Medicare also limits the number of aggregate inpatient days (both general and respite care) a hospice program should provide. During a one-year period the inpatient days should constitute no more than 20 percent of the total number of Medicare days of care provided by the hospice. The hospice program is required to reimburse Medicare for payment received for inpatient days beyond that limit. This provision may discourage hospices from accepting sicker patients and patients with uncertain family support, since these patients may require more inpatient care.

Hospice services are reimbursed through a prospective payment system. All-inclusive per diem rates are prospectively determined for four categories of care: routine home care, continuous home care, inpatient respite care, and general inpatient care. According to the December, 1983, regulations, the daily rate for routine home care is set at $46.25, regardless of the volume or intensity of services the patient receives. A higher reimbursement rate is available for patients requiring continuous home care lasting 8 hours or more. To qualify for this rate, nursing care must constitute the greater proportion of services provided. Home health or homemaker services are also covered under this hospice reimbursement rate. The rate for 8 hours of continuous home care is set at $119.56; each additional hour of home care is reimbursed at $14.96 up to $358.67 for 24 hours of home care.

Two reimbursement rates for hospice inpatient care have been determined. The average daily hospice rate for inpatient respite care, after deduction of the five percent co-payment, was set at $55.33 in December, 1983. Health Care Financing Administration (HCFA) has equated hospice respite care to care received in a skilled nursing facility (SNF); therefore, the payment rate for respite care remains the same, regardless of the inpatient facility used (freestanding hospice, hospital, or SNF). General inpatient care refers to short-term care for pain control or management of acute and severe clinical problems and is reimbursed at a rate of $271 per day.

All four rates are adjusted for regional wage variations. However, the regulations do not specify a mechanism for adjusting the prospective rates; rather, the HCFA may revise these rates based on cost and utilization experience. Legislation passed by Congress set a per capita cap of $6,500 for the hospice benefit. This cap does not apply to individual hospice patients but to the average reimbursement for patients in a hospice program.

2.3 Cost

Two recent studies conducted by Blue Cross/Blue Shield revealed that health care costs for terminally ill cancer patients during the last six months of their life can be drastically lowered by use of hospice at-home care rather than in-hospital care. The studies, one funded by the DHHS and the other by Blue Cross of Northeast Ohio and the Hospice Council for Northern Ohio, are expected to serve as benchmark for comparing costs of conventional terminal cancer care with the medical costs of the hospice program.

Medicare records and the Blue Cross Plan's records for 1,031 Cleveland area residents who died of cancer between April 1 and September 30, 1981, were examined in the study, which showed that the average total third-party payment in the last four weeks of life was $1,290 for the hospice patient, compared to $3,557 for other patients.

In the last eight weeks of life, insurance coverage provided payments averaging $1,669 for a hospice patient as against $5,509 for patients receiving traditional care.

The Ohio study also indicated that in the last two weeks of life non-hospice patients spent an average of 6.7 days in the hospital while hospice patients were hospitalized for only 1.6 days during those two weeks.

While the average cost for "conventional" care for terminal cancer patients is nearly $16,000, the study of hospital costs revealed that hospital expenditures account for 78 percent of the total cost with expenditures for physician services making up 16 percent. In contrast, home care and care in skilled nursing facilities constitute less than one percent of total costs.

The hospital study also showed that the daily costs for terminal patients are as much as 40 percent higher than the average daily costs for all hospital patients.

Cancer patients in that study averaged about 37.7 days of hospital care during the last six months of life at a cost of about $326 a day and spent 15 days of their final month in the hospital.

The study revealed that with conventional methods of care of terminal cancer patients, inpatient expenditures climb by only several hundred dollars each month until the second month before death. In that month, typically, there is an increase of more than $900, or 59 percent, over the previous month.

In the last month of life, inpatient expenses jump 112 percent on the average -- by another $2,800. The last month alone accounts for 35 percent of all hospital inpatient care during the terminal year and for 31 percent of the last year's expenditures for all services.

A study conducted by Health Policy Alternatives in 1981 concluded that the coverage of comprehensive hospice services could be added to Medicare without increasing the costs of the Medicare program.

3.0 Future Resource Requirements

3.1 Availability

One method for estimating the potential need for hospice services is demonstrated by the following:

.5X (1977) + .1Y (1977) = potential caseload for hospice services where .5X represents 50 percent of the cancer deaths reported in 1977. This does not take into account referrals to hospice programs for bereavement services only, and

.1Y represents 10 percent of the reported deaths due to heart disease, cerebrovascular disease, and arteriosclerosis. These three chronic afflictions are reported on a county basis to DHES.

Aggregating the reported deaths due to cancer, heart disease, cerebrovascular disease, and arteriosclerosis by MHSA subareas, the following patient caseloads may be anticipated:

North Central	178	Southwestern	245
Northwestern	225	Eastern	125
South Central	193		

Other factors affecting the potential demand for hospice services, as well as the ability for the hospice program to deliver care, are:

1. the proportional growth of the elderly population 65 years of age or older. In Montana, this population cohort is expected to increase to over 100,000 by 1990;

2. the presence of occupational groups exposed to unusually high risks of cancer or other terminal diseases. The Preventive Health Services Bureau of the DHES had initiated a tumor registry with 46 hospitals in Montana participating. Data on cancer patients will be collected for a two-year period and an analysis of cancer incidence patterns will be conducted;

3. the degree to which medical malpractice insurance requirements may inhibit the use of volunteer hospice workers. Hospice of Missoula and

Highlands Hospice in Butte have arranged for liability insurance for their volunteers;

4. the availability of institutions and organizations interested in sponsoring or supporting hospice care programs in Montana. Many of the hospice programs in Montana are administratively operated through a parent hospital or home health care agency, and all have solicited the support of many health care providers;

5. the numbers of single-person households or other proxy for adults without family or friends who could provide continuous care and companionship in the event of terminal illness;

6. the population density, transportation, and climate considerations. This factor relates to the need for nurses, physicians, and others to visit patients frequently at home, and need for staff and family to travel daily to and from an inpatient unit;

7. the availability of home health care services (Figure 2); and

8. the availability of volunteers with pertinent skills, including physicians, nurses, clergy, homemakers, social workers, and others with counseling skills.

The effective hospice program is one which has established linkages with the necessary resources available in the community, productive working relationships with providers of care and sufficient community support to elicit a corps of volunteer workers. The hospice concept of care requires that hospice services act to fill a void in the existing service delivery system.

3.2 Accessibility

Accessibility to hospice services is a function of the geographic access, patient's financial status or eligibility to receive third-party reimbursement for the services, and, conversely, the program's ability to remain financially viable, the patient's eligibility to receive hospice services,

local physician awareness and endorsement of hospice services, and community participation.

Geographically, hospice services are available to only a limited patient population in Montana. The success of these programs cannot be assessed at this time due to the lack of empirical data on program cost, patient satisfaction, and utilization review standards. The development of additional hospice programs at this time may be premature pending an assessment of the existing programs and the problems encountered in delivering hospice care.

Reimbursement and funding issues are addressed under Section 4.0 of the plan component.

Admission criteria differ among programs and usually include but are not limited to the following:

1. nature of disease -- Admission is occasionally restricted to cancer patients. Even where admissions are not so restricted, most admissions are cancer patients.

2. life expectancy -- Patients must have a life expectancy of weeks or months; sometimes a specific period (e.g., 3-12 months) is indicated.

3. geographic limitations -- Sometimes residence in a particular county is required.

4. involvement of a personal physician -- Some programs require that the patient's own physician continue to direct the care.

5. involvement of a responsible relative or friend -- Most hospices require that a specific person serve as the primary contact and assume ongoing responsibility for care in the home.

6. age restrictions -- Some programs may exclude patients by age of patient.

Provider support is essential to successfully implement a hospice program in that national statistics indicate physicians refer 66 percent of the client population; friends refer 10 percent; nurses, 9 percent; social workers, 8 percent; and other sources, 7 percent.

3.3 Cost

Legislation signed into law by President Reagan extending Medicare coverage to hospice care is expected to save the federal government tens of millions of dollars in health care costs by the mid-1980's.

A cost analysis of the new law by the Congressional Budget Office (CBO) projects a $16 million reduction in Medicare outlays over the next three years and a $100 million savings by the end of the fifth year if the law is extended by Congress.

The CBO study anticipates a substantial savings for every Medicare beneficiary electing hospice care over traditional medical services during the final days of life. Based on an average hospice stay of 45 days, the federal agency estimates it will cost Medicare $5,010 to maintain a patient in a hospice compared to $6,120 for those who choose traditional medical services, for a net savings of $1,110 per hospice user.

In arriving at its estimates, CBO relied on information provided by the Joint Commission on the Accreditation of Hospitals (JCAH) and the General Accounting Office. Based on data developed by JCAH, CBO figures indicate that hospices are currently serving about 50,000 persons, 95 percent of whom are dying of cancer and 60 percent of whom are over 64 years old.

4.0 General Analysis

4.1 Alternatives and Issues

1. Lack of Standards:

Even with the guidance of the federal and state laws and regulations and the NHO model bill with its Assumptions and Principles, the development of

regulatory strategies for controlling hospice programs is a complex and delicate task. The difficulty can be attributed partly to the fact that a nationally recognized notion of how a hospice program must be structured, and what it must offer, has not yet emerged. While there are general definitions of hospice and consensus about philosophical principles, overall agreement on what the core services of a hospice program should be is not evident. This becomes clear upon examination of official definitions adopted by state regulators.

A complicating factor stems from the diversity of models adopted by hospice programs and the fact that most of these models are still developing, but even accounting for the wide variety of hospice programs as a result of such factors as geography or inpatient/outpatient approach, there still is an overriding need for general consensus on what basic services any hospice must offer for purposes of designation and reimbursement. Until such consensus is reached, Montana must approach licensure and regulation of hospice with great caution.

2. Private Carrier Reimbursement:

In October 1981, the Health Benefits Consulting Group of the Frank B. Hall Consulting Company surveyed 11 major carriers and found only nominal support among third-party payors for comprehensive hospice services. But by October 1982, the situation had changed dramatically. Many carriers that were not making a hospice option available to their policyholders in 1981 invested significant amounts of time and money to the development of a hospice product in 1982. Some carriers now have products that are being marketed or are planned for release.

Responses to the survey indicate increasing support among third-party payors for comprehensive hospice services. Nevertheless, carriers are approaching hospice reimbursement with caution. Experience in other areas of health care has shown that reimbursement has both positive and negative consequences on the demand for and cost and quality of care delivered.

One of the most important findings of the survey was the identification of the carriers' concerns regarding reimbursement for hospice services. Their

most common concern was the lack of accreditation standards. Carriers fear that reimbursement without proper accreditation will lead to provider abuse and compromises on quality. In the absence of formal standards, carriers have to rely on the guidelines and membership roster of the National Hospice Organization. Some carriers have developed their own criteria for hospice eligibility for reimbursement.

Another issue frequently raised by the carriers is the lack of utilization data. They particularly focused on bereavement counseling and social services and the potential demand for these services. Some carriers are attempting to control utilization by placing limits on the number of visits and/or the monetary amount of coverage available for these services.

Insurance companies are also skeptical of the potential cost savings that can be realized over inpatient hospital care. In some cases, the carriers have placed limits on the amounts of coverage; others are leaving this choice to the policyholders. Carriers are anxious to obtain any substantial utilization data that may help them determine the cost benefits of hospice care.

Finally, many carriers voiced concern about reimbursement of volunteers. They expressed the fear that third-party reimbursement will mean that fees for services will be substituted for voluntary service. This could have a negative impact on cost savings for hospice care. Furthermore, carriers are not sure how to distinguish between reimbursable and nonreimbursable services. One problem surrounding the issue of volunteerism is whether or not professionals formerly providing services on a volunteer basis should now be eligible for payment.

The concerns of third-party carriers regarding hospice reimbursement are not unique to the insurance industry. Hospice advocates have also expressed concern that the availability of reimbursement may attract self-serving entrepreneurs lacking the necessary commitment to the hospice philosophy. This could potentially undermine the quality of care. Parameters for hospice reimbursement will have to safeguard against potential abuses.

3. Education of Care Providers:

The education of care providers (physicians and nurses as well as social workers, psychologists and clergy) must include education in the care of the terminally ill patient. Typically, the education of care providers in the health care area is oriented toward the care of acute medical problems and is cure oriented. However, much of the care required by terminal patients is comprised of emotional support, empathy, compassion and counseling. A different focus on the care of the terminally ill patient and his or her family is imperative to the provision of quality care. There needs to be a refocusing of orientation toward the provision of care which results in the patient functioning at his or her optimal level. The problem with provider education appears to be gaining wide recognition among health care professionals in recent years. In-service training programs via the vehicle of workshops and seminars provide hospice care providers with up-to-date information which would enable them to better meet the needs of the terminal patient and his family.

In order to provide appropriate care for the dying patient, health care providers need to learn to work in a multi-dimensional way so that the patient is treated rather than just the disease -- a refocusing on caring as opposed to curing.

4. The Use of Drugs:

The need for effective control of pain is part of the strategy of symptom control outlined in Lack's components of hospice care. Pain is the symptom most feared by cancer patients and is poorly controlled by health professionals. The medication for control of pain at St. Christopher's Hospice is a mixture called Brompton's Cocktail. The analgesic in this formula is 5-10 mg. of diacetalmorphine hydrochloride (heroin). Results with this pain medication have been excellent since it relieves pain but does not cause the mental depression so characteristic of narcotic analgesics. However, medically supervised use of heroin is not legal in the United States.

The National Committee on Treatment of Intractable Pain has sought legislation amending the federal narcotic laws so that heroin could be used to treat pain in terminal cases.[11] Concerned that the controlled use of heroin would make the drug more available to drug abusers, the American Medical Association is resistant to this proposed legislation.

5. Licensure and Accreditation:

The issue of hospice licensure is closely related to the development of criteria and standards for hospice programs. Four reasons for hospice licensure are:

a. licensure offers state governments a mechanism to ascertain that health care providers are offering services of acceptable quality,

b. hospice licensure provides a legal basis of operation (Although hospice programs may be incorporated under state law, licensed status is required to provide health care services. Currently, hospice staff are licensed under their own professional categories.),

c. reimbursement considerations constitute a third reason for hospice licensure, and

d. licensure regulation may resolve some of the existing ambiguities in hospice operations. These include the specific status of hospice records, personnel requirements for administrative and medical staff, and legal liability.

It is therefore necessary that state licensure of hospice programs be mandatory. Presently, the licensure of hospice programs in Montana is required.

Hospice accreditation is also a voluntary process, designed to encourage optimal service provision. JCAH has developed a set of standards that will

be used in its voluntary hospice accreditation program effective January, 1984. The 37 standards have been grouped into the following ten areas:

1. patient/family as a unit of care,
2. interdisciplinary team services,
3. continuity of care,
4. home care services,
5. inpatient services,
6. medical records,
7. governing body,
8. management and administration,
9. utilization review, and
10. quality assurance.

Table 2 shows a sample of criteria and standards in terms of the six health system characteristics of availability, accessibility, cost, quality, acceptability, and continuity.

Table 2

Criteria for Hospice Programs

Characteristics		Criteria
Availability	1.	Service capacity in the region.
	2.	Scope of services offered.
	3.	Rates of service utilization.
Accessibility	1.	Travel time.
	2.	Ability to pay.
	3.	Facility design.
	4.	Availability of transportation services and adequate parking facilities.
	5.	Patient mix by payment source, age, and ethnicity.
	6.	Availability of information about the service.
	7.	Eligibility requirements.
Cost	1.	Availability of less costly alternatives.
	2.	Financial viability.
	3.	Charges.
	4.	Expenses.
	5.	Minimum volume.
Quality	1.	Availability of an adequate patient review process.
	2.	Availability of an adequate program for controlling infection.
	3.	Availability of a tested plan for operation during a national disaster or other emergency.
	4.	Availability of adequate programs for maintaining and calibrating equipment to ensure safety and accuracy.
	5.	Availability of continuing education for staff.
	6.	Availability of qualified personnel.
	7.	Staffing per unit of service.
	8.	Staffing requirement by type.
	9.	Training and/or certification requirements for staff.
	10.	Utilization review procedures.
	11.	Availability of needed facilities, equipment, and supplies.
	12.	Availability of essential patient care support services.
	13.	Accreditation by relevant organizations.
Acceptability	1.	Provider observation of American Hospital Association "Bill of Rights."
	2.	Availability of the provider personnel to communicate in prevailing area languages.
	3.	Availability of channels for consumer participation.
	4.	Provider and consumer satisfaction with service and consumer comfort.
	5.	Availability of information including charges prior to service delivery.
	6.	Visitation privileges.
	7.	Availability of complaint mechanism.
Continuity	1.	Availability of and accessibility to patient records without violation of patient confidentiality.
	2.	Adequate written policies for referrals.
	3.	Availability of adequate discharge planning procedures and follow-up care.
	4.	Coordination of services.
	5.	Locus of responsibility for services delivered.

SOURCE: Foundation Report on the Provision of Hospice Care, Colorado Medicine 79(12):406-410, December 1982.

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12. Health Systems Agency of South Florida, 1980-1985 Health Systems Plan, pp. 293-300.

HOSPITAL SERVICES FOR ACUTE PSYCHIATRIC CARE

Goal:

Montana should maintain a mental health service system that is appropriate to the needs of the people of the State.

Objectives:

1. The development of hospital services for psychiatric care should be consistent with the Montana Mental Health Services Program Plan and the Montana Health Plan.

2. Psychiatric service needs for children and youth should be reliably defined.

Actions:

1. The Montana Department of Institutions, as the lead agency, in conjunction with the Human Services ad hoc Interagency Committee for the Emotionally Disturbed Children, should work with the health planning agencies to develop a comprehensive state mental health plan for children and youth. This plan should be a distinct subsection of the State Mental Health Plan, wholly separated from that which deals with services for adults. The plan should address but not be limited to the following issues: current psychiatric service needs of children and youth in Montana; current psychiatric services available to children and youth in Montana; future resource requirements for psychiatric services to children and youth in Montana.

2. The Montana Health Systems Agency and Department of Health and Environmental Sciences should reevaluate psychiatric hospital bed need projections annually and update when necessary.

1.0 Background

1.1 Service Definition

Psychiatric hospital services are designed to serve patients with severe emotional disturbances who cannot be treated in community-based facilities. These services can be divided into three general categories based on length of stay:

1. short-stay -- one to thirty days (average about 10 days) for evaluation, treatment and crisis management of patients who are primarily outpatients or residential patients,

2. intermediate -- 30 to 60 days for evaluation and treatment, and

3. long-term -- over 60 days for treatment.

1.2 Services and Settings

Psychiatric hospital services in Montana are offered in two types of settings: (1) acute care services offered in dedicated units in community hospitals or in general hospital beds and (2) intensive treatment and evaluation programs offered through the Montana State Hospital in Warm Springs.

1.3 Trends

Since the early 1960's, two concepts have dominated mental health care trends. These can be summarized under the headings of patients' rights and deinstitutionalization. Both of these concepts are incorporated into the service patterns of community mental health centers where programs are designed to assure certain rights of the patient and to provide services as close to the home of the client as possible.

The system of community mental health centers developed in Montana, in conjunction with the support of services of local hospitals and other

providers, has reduced the number of long-term hospitalized patients in the State institution from about 2,000 in the 1950's to about 350 in 1982.

2.0 Current Situation

2.1 Availability

There are four community hospitals in Montana that have psychiatric units staffed by psychiatric-trained professional personnel and that utilize therapeutic treatment modalities. These hospitals are located in Billings, Great Falls, Butte and Missoula. Other hospitals in the State have security rooms or use general beds for psychiatric patients but do not have organized units.

Treatment and court-ordered inpatient evaluations are available at the Montana State Hospital at Warm Springs. The hospital has specialized treatment units for intensive treatment, extended treatment, pre-release, children, long-term and forensic services. These treatment units are supported by an intake unit for initial evaluation, diagnosis and treatment planning. A 60-bed treatment facility for treatment of adolescents (ages 12 to 18) is currently under construction in Billings. This facility will replace the children's services currently provided at Warm Springs.

The number of beds, patient days, and occupancy rates of hospital psychiatric services in Montana are shown in Table 1.

Long-term treatment for severely disturbed adolescents who do not require hospitalization is also available in Montana. There are two private residential child care agencies that are designed for the treatment of moderately and severely emotionally disturbed youth. These agencies and their service capacity are listed in Table 4. The Subcommittee on Emotionally Disturbed Children indicated that some areas of the State are using child care agencies where there are no available group homes. Group homes, including Aftercare Group Homes, District Youth Guidance Homes and Achievement Homes, provide the next less restrictive level of care and usually are licensed for 7 youth.[1]

2.2 Accessibility

Accessibility to mental health care varies considerably according to geographic location and intensity of care required. While outpatient mental health care is readily accessible across Montana through the community mental health center network and private practitioners, local inpatient psychiatric care with the additional requirements of expensive manpower and facilities is restricted to a few metropolitan areas. Costs associated with inpatient care may also limit the accessibility of these services. The poor and unemployed are unlikely to have either the personal resources or insurance necessary to cover even a short inpatient hospitalization. Table 2 lists the locations of psychiatrists in the State.

The availability of mental health professionals and geographic accessibility undoubtedly have considerable effect on the use of psychiatric hospital services. Table 3 shows admissions to the State Hospital by planning region of patient origin.

Voluntary admissions make up about 50 percent (53.6% in 1983) of the State Hospital admissions. Involuntary admissions follow with about 20 percent (19.6% in 1983). Increased availability of regional services and a prescreening system for State Hospital admissions could be expected to relieve some emergency detentions and voluntary admissions, but the State facility will probably remain the only practical treatment choice for the patient requiring intensive inpatient treatment. This is particularly true with patients who are difficult to manage and are referred to the State Hospital by other treatment facilities.

2.3 Cost

The use of Montana State Hospital for care that could be provided efficiently by a local acute care unit can increase costs unnecessarily. The discontinuity in treatment between locally referring professionals and Montana State Hospital staff duplicates the professional manpower requirements and may extend the total length of treatment. However, use of local inpatient facilities becomes an economically feasible alternative only when the local utilization rates and patient volume are sufficient to offset the

Table 1
Montana Hospital Psychiatric Services

Hospital	Patient Days 1980	1981	1982	1983	1983 Beds	1983 Occupancy
Billings Deaconess	5872	6716	6632	7545	27	76.6%
Montana Deaconess (Great Falls)	5515	5496	5468	4867	27	49.4%
St. James Hospital (Butte)	4897	4564		2794	36	56.9%[a]
St. Patrick Hospital (Missoula)	4225	4246	3779	3573	17	57.6%

[a]Based on 18 staffed beds and occupancy for 9 months.

SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau, Annual Survey of Hospitals and Medical Facilities.

Table 2
Psychiatrists — Montana, 1983

Region	County	Psychiatrists	Region Total
I			0
II	Cascade	4	
	Hill	1	5
III	Yellowstone	9	9
IV	Deer Lodge[a]	5	
	Gallatin	2	
	Lewis and Clark	4	
	Silver Bow	3	14
V	Flathead	2	
	Lake	1	
	Missoula	5	8

[a]All 5 psychiatrists in Deer Lodge County are employed at the State Hospital.

SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau, 1983 Montana Physicians.

Table 3
Patient Origin of State Hospital Patients, July - December, 1983

	Region				
	Eastern	North Central	South Central	Southwestern	Northwestern
Admissions	24	34	53	142	78
Percent of Admissions	7.3	10.3	16.0	42.9	23.6

SOURCE: Montana State Hospital, Thomas V. Sellars, Charts and Statistical Data, March 16, 1984.

Table 4
Long-Term Services for Moderately and Severly Disabled Youth

Home	Licensed Capacity	Fiscal Year 1981 Average Occupancy
Inter-Mountain Deaconess (Helena)	32	76%
Yellowstone Boys and Girls[a] Ranch (Billings)	121	82%

[a]Yellowstone Boys and Girls Ranch has JCAH accreditation as a residential psychiatric treatment facility and accreditation by the National Association for Homes for Children (NAHC).

SOURCE: A Plan to Improve Services to Montana's Emotionally Disturbed Children and Youth, as Reported to the Montana Interagency Committee on Handicapped Children from the Subcommittee on Emotionally Disturbed Children, Helena, Montana, June 1982.

cost of service delivery. Low utilization of local facilities through duplication of resources could increase the State's overall cost of mental health delivery.

A systematic analysis of the use of short hospitalizations (one to thirty days) followed by outpatient or day care follow-up shows comparable results and tremendous financial advantage for the short stay as compared to the intermediate (30 to 60 day) stay patients.[2] Savings result from reduced hospital costs and increased employment of patients while use of manpower and other services is comparable. Short stays also promote least restrictive alternatives and continuity of care. Readmission rates were not reduced by using the intermediate stay services.

The development of regional acute inpatient services could increase quality and efficiency of mental health care through earlier diagnosis and involvement in effective treatment.

2.4 Quality of Care

The 1982-1986 Montana Mental Health Services Program Plan establishes Montana's Philosophy of Mental Health Care.[3] The plan sets out a list of principles for the provision of efficient and effective care. These principles are under the headings of:

(1) human dignity, privacy, and clients' rights,

(2) least restrictive settings,

(3) availability of services close to home, and

(4) funding and accountability.

Under the second and third headings are statements that each client should be treated in the least intensive or restrictive setting consistent with the client's clinical needs and that these services should be provided in the local community as close as possible to the home of the client. Constraints of funding and accountability generally require that it is only

the less restrictive settings that can be made available locally. The more restrictive, more intensive care must be made available through coordinated referral networks.

This philosophy does not favor the use of hospitalization when a less intensive service is appropriate, or the use of the State Hospital or a regional facility as a substitute for local short-stay services. As referenced in the cost section, more intensive or extended care than needed is neither cost-effective nor better quality care. It is important to have a resource system that matches the levels of needs of the patients.

3.0 Future Resource Requirements

3.1 Availability

The need for hospital beds is established in the General Hospital Inpatient Services section of this Plan. The Montana Health Plan thus specifies that bed need is computed as follows:

$$\frac{\text{(Three-year patient day average)}}{365} \times \frac{\text{Projected 1990 Population}}{\text{1980 Population X Occupancy Factor}}$$

If the beds are included in the total bed count of a general hospital, the average hospital occupancy factor is based on the total beds in the hospital. If a psychiatric unit is to be added to a hospital or a freestanding psychiatric hospital is being considered, an occupancy factor of .8 will be used.

A comparison of the number of inpatient psychiatric beds currently available to the projected bed need through 1990 shows that beds currently available are sufficient to meet these projected needs. However, total beds available does not address the issue of accessibility and the appropriate location/distribution of local inpatient services.

The 60-bed long-term hospital in Billings may fill the need identified in the Department of Institutions' plan[4] for services for severely disturbed youth twelve to eighteen years of age. The capacity is less than requested

by the Department of Institutions[5] and experience with this facility will indicate whether or not additional services should be added. The removal of services for younger children from this facility's plan leaves a gap in the overall treatment resources in the State.

Estimates of need for psychiatric inpatient care for children vary with treatment philosophy and alternative resources available. There is need for some inpatient services in Montana designed and staffed exclusively for children. These services should be phased in over a period of time, integrated into a treatment system with other care alternatives and available on a basis of need, regardless of ability to pay for services.

The Montana Plan for Emotionally Disturbed Children and Youth[6] indicates that there is need for additional treatment capacity for moderately disturbed youth, but not as intensive treatment as required for the severely disturbed. Hospital services for this population would be more expensive and less consistent with the least restrictive, closest-to-home philosophy of treatment. The use of either inadequate or excessive treatment can be expected to result in more expensive and less effective care. It is thus essential to coordinate investment and development of the full range of mental health and psychiatric services.

3.2 Accessibility

The lack of local acute psychiatric hospital inpatient services in areas that may be able to support them is identified above as an accessibility problem. The 1981-1984 Montana Health Systems Plan identified a need for ten or more local beds in Kalispell, Helena and Bozeman in addition to the existing units. Miles City, Glendive, Sidney and Glasgow were identified as possible sites for psychiatric hospital beds in the eastern portion of the State although none were estimated to be able to support more than seven or eight beds.

The Mental Health Plan[7] for the State indicates the need for thirty additional acute general psychiatric beds. The Plan also identifies Kalispell, Miles City and Helena as preferred sites with about ten beds each.

The following assumptions are made concerning need for psychiatric hospital beds:

(1) an acute short-stay psychiatric service area will not significantly exceed the service area of the general hospital(s) in the community where it is located,

(2) a psychiatric unit must have at least ten beds to be financially feasible, and

(3) the use rates experienced in the existing psychiatric hospital units' services areas can be expected to be representative of other communities in Montana.

Using the above assumptions, the bed need projections in Table 5 are provided for the communities with a 1990 hospital service area population projected over 10,000. The use rate base is computed from a total of 20,713 patient days (1980-1982 yearly average) and a service area population of 413,303 for the four existing services. This gives a use rate of 50.11 patient days per 1,000 persons. Service area populations for potential service locations are given in Table 6 along with projected bed need based on Montana experience and on the national rate of 64.73 patient days per 1,000.[8]

The bed need projections are based on estimated patient days and an occupancy factor based on the number of hospital beds in the community. A unit with about ten beds could be justified in Bozeman and Helena. A Certificate of Need has been granted for ten psychiatric beds in Kalispell. Because of the geographic accessibility problems in the eastern part of the State, a similar unit (ten beds in a community hospital or freestanding service) could also be justified there if it included a committed referral network.

In comparing the efficiency and accessibility of services between freestanding and hospital-based units, consideration should be given to the fact that a freestanding inpatient psychiatric unit cannot collect Medicaid reimbursement for patients between twenty-one (21) and sixty-five (65)

Table 5
Psychiatric Hospital Bed Need in Acute Care Hospitals

Facility	Current Beds 1984	1980-1982 Average Patient Days	1990 Projected Patient Days[a]	1990 Projected Bed Need[c]
Billings Deaconess	27	6406	7894	27[d]
Montana Deaconess	27	5493	5981	20
St. James Hospital	36	4731[b]	4170	14
St. Patrick Hospital	17[e]	4083	4382	15

[a]Based on projected statewide population increase and 1980-1982 patient days.

[b]Based on 1980 and 1981 only.

[c]Computed at 80% occupancy.

[d]Billings Deaconess annual patient days have increased for the past three years Projecting from 1983 data gives about 30 beds for Billings, but projecting the recent trend would indicate an even greater number.

[e]St. Patrick Hospital approved for 26 beds in May, 1982, an increase of 9 beds.

SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau, Annual Survey of Hospitals and Medical Facilities, 1980-83.

Table 6

Estimated Need for Acute Psychiatric Hospital Beds at New Locations — Montana, 1980-1990[a]

Town	Service Area Population-1980[b]	Estimated 1980 Days	Estimated 1990 DAYS[c]	Occupancy Factor	Beds 1990[d]	Beds 1990[e]
Bozeman	42,456	2,127	2,411-3,115	80%	8	11
Glasgow	12,377	620	703- 907	80%	3	4
Hamilton	12,564	630	714- 922	80%	3	4
Havre	22,809	1,143	1,296-1,674	80%	5	6
Helena	43,348	2,172	2,462-3,181	80%	9	11
Lewistown	12,860	644	730- 944	80%	3	4
Kalispell/[f] Whitefish	53,382	2,675	3,032-3,916	80%	10	13
Miles City	17,854	894	1,013-1,309	80%	3	4

[a]Communities with a 1990 hospital service population over 10,000 and no present psychiatric hospital services.

[b]Service Area and Relevance Index Service Area of Montana Hospitals - 1979.

[c]Range is from Montana to National use rates.

[d]Based on Montana observed rate of 50.11 days/1,000 persons.

[e]Based on National observed rate of 64.73 days/1,000 persons.

[f]Certificate of Need granted for 10 beds in Kalispell.

SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau.

years of age. This factor may severely restrict the population that could economically be served by a freestanding unit.

3.3 Cost

Psychiatric hospital beds are licensed as general hospital beds, and construction requirements and costs are generally similar. If excess general hospital beds exist in a community, those beds should be considered for use for psychiatric services before building additional hospital beds for this purpose. Cost of the service, accessibility of patients with different payment sources and continuity of care issues would all have to be considered to determine the most desirable setting in the absence of excess beds.

3.4 Quality of Care

A psychiatric hospital or psychiatric hospital service in general must meet licensure standards and should have an effective peer review program for quality and utilization. As guidelines for Certificate of Need review, the following are minimum requirements for a psychiatric hospital service:

1. psychiatrist on the facility staff;

2. appropriate facilities for secure/protective room;

3. adequate staffing of nurses who have formal preparation in psychiatric techniques, therapeutic treatment modalities, and nursing skills specific to the care of psychiatric patients;

4. specialized staff, such as Occupational Therapist, Activities Therapist, Recreation Therapist;

5. Discharge Social Worker for aftercare planning;

6. facilities for group, individual and recreation therapy; and

7. an organized, therapeutic program.

4.0 General Analysis

4.1 Alternatives and Issues

The passage of Senate Bill No. 107 by the 1983 Montana Legislature should improve accessibility to mental health services for a portion of the population. This legislation provides requirements for insurance coverage of a "basic" level of mental health, alcohol and drug addiction treatment.

This legislation should improve the viability of community-based services that have long been recognized as needed in Montana. This legislation does not change these long-recognized needs or lend support to changing the policy of least intensive/least restrictive care.

This health plan component does not address the need for less intensive, community-based services, but is based on the assumption that there should not be established an excess of psychiatric hospital services that would be used to substitute for more appropriate, less intensive services.

The staff of the Health Systems Agency and the Statewide Health Coordinating Council should intensify efforts to obtain information on mental health and psychiatric services and needs in Montana. Based on this information, this section of the Montana Health Plan should be reviewed annually and updated as necessary.

REFERENCES

1. A Plan to Improve Services to Montana's Emotionally Disturbed Children and Youth, as Reported to the Montana Interagency Committee on Handicapped Children from the Subcommittee on Emotionally Disturbed Children, Helena, Montana, June 1982.

2. Endicott, J., et al, "Brief Versus Standard Hospitalization: The Differential Costs," American Journal of Psychiatry 135:6, June 1978, p. 707-712.

3. State Plan for Mental Health Services Programs 1982-1986, Montana Department of Institutions, Carroll V. South, Director, Helena, Montana, July 1981.

4. See reference 3.

5. An Application for Certificate of Need for Replacement and Expansion of Montana Children's Treatment Unit, State of Montana Department of Institutions, Carroll V. South, Director, Helena, Montana, February 1982.

6. See reference 1.

7. See reference 3.

8. Inpatient Utilization of Short-Stay Hospitals by Diagnosis: United States, 1980. U.S. Department of Health and Human Services, Series 13, No. 74, September 1983.

9. Service Area and Relevance Index Service Area of Montana Hospitals - 1979, Bureau of Health Planning and Resource Development, Montana Department of Health and Environmental Sciences, Helena, Montana, 1980.

RECOMMENDED CRITERIA AND STANDARDS FOR REVIEW

These standards are based on the preceding plan and are to be applied to the review criteria established by law and rule and referenced below. All review criteria in MCA 50-5-304 and ARM 16.32.110 may be applied, but specific standards are established for the following.

1. Criteria (MCA 50-5-304(1)(c)): The need that the population served or to be served by the services has for the service.

   Plan Standards:

   (a) Through 1990 there is no need for additional long-term psychiatric hospital services in Montana for adults or youth.

   (b) There is a need for acute short-stay psychiatric hospital beds in the eastern, southwestern and northwestern planning regions of Montana. Preferred locations are Miles City in the eastern region, Bozeman or Helena in the southwestern region, and Kalispell in the northwestern region. The approximate need expressed in patient days of service per year is as follows:

Bozeman	2400-3100 patient days/year
Helena	2500-3300 patient days/year
Kalispell	3000-3900 patient days/year
Eastern area*	2100-2700 patient days/year

   *Miles City, Glendive and Sidney service areas.

2. Criteria (MCA) 50-5-304 (1)(g)): The availability of resources, including health manpower, management personnel, and funds for capital and operating needs for the provision of services proposed to be provided and the availability of alternative uses of such resources for the provision of other health services.

Plan Standards:

(a) Applications for Certificate of Need for psychiatric hospital services must establish that adequate psychiatric and other treatment staff will be available when the services begin.

(b) Psychiatric hospitals should only be located in communities where there are adequate aftercare programs to provide follow-up treatment. Preferably such aftercare should include residential, day care and outpatient services.

3. Criteria (ARM 16.32.110(1)(c)(i)): The equal access the medically-underserved population, as well as all other populations within the geographical area documented as served by the applicant, will have to the proposed new health service.

Plan Standard:

(a) The service must show that it will serve all segments of the population in the service area, regardless of method of payment.

4. Criteria (ARM 16.32.110(2)(a), (b) and (c)):

(a) The efficiency and appropriateness of the use of existing inpatient facilities providing inpatient services similar to those proposed.

(b) That superior alternatives to such inpatient services in terms of cost efficiency and appropriateness do not exist or that the development of such alternatives is not practicable.

(c) That in the case of new construction, alternatives to new construction, such as modernization or sharing arrangements, have been considered and have been implemented to the maximum extent practicable.

Plan Standard:

(a) Approval of a Certificate of Need by the Department of Health and Environmental Sciences for new construction for psychiatric hospital beds in a planning region where excess psychiatric hospital bed capacity is projected for 1990 must be based on evidence of the following:

(i) That the proposed service population is not adequately served through the existing services; or

(ii) Provision of the service through the existing service results in a higher total cost to the service community.

LONG-TERM CARE

Goals:

1. Long-term care beds should be readily available to meet State, regional and local needs. This is necessary to avoid excessive travel time to a facility and to minimize any psychological adjustments made necessary by placement in nursing facilities located a long distance from home and family.

2. Facilities planned for future use should be able to provide comprehensive care to the patient and be designed to maintain an occupancy rate of 97.5 percent.

3. Placement of long-term care persons in nursing homes is encouraged when such placements are deemed appropriate or when other less intensive care modes are not available.

Objective:

By 1990, the following counties appear to need additional long-term care beds:

Cascade	Dawson	Hill	Ravalli
Custer	Gallatin	Lewis & Clark	Yellowstone

No new facility construction should be approved, however, until the applicant demonstrates that alternative modes of care have been considered.

Actions:

1. By 1986, the various sources of funds to assist in the financing of retirement homes, group homes, all forms of subsidized housing and other less restrictive living arrangements should be identified. Programs providing seed money for the establishment of adult foster care programs, geriatric day care, and respite care centers should be identified and solicited. Also the Montana Health Systems Agency (MHSA) should work toward stabilization of reimbursement policies for all these services for the aged.

2. By 1986, efforts should be coordinated between MHSA and other organizations affiliated with the aged to identify the specific health problems of the elderly and those programs that could be implemented to alleviate these problems.

3. Proposed construction, expansion or modernization plans must be compatible with the projected bed need estimates of the regional and local service areas. Priority for bed need will be the local service area.

4. Any proposed project should be staffed by an adequate number of appropriately trained nursing personnel. Patient assessment score is determined by patient abstract forms submitted on a monthly basis to the Department of Social and Rehabilitation Services (SRS). If the facility does not meet certain staffing level in relation to assessment score, financial penalties may be imposed.

5. Residents' rights should be defined in writing and appropriate steps should be taken to ensure that all staff, owners/operators and residents be aware, understanding and protective of these rights.

6. In rural, sparsely-populated communities the development of combination hospital/long-term care facilities should be encouraged where there is evidence of need.

1.0 Background

1.1 Service Definition

Long-term care refers to the professional or personal services required by an individual on a recurring or continuous basis because of physical or mental impairment of a chronic or permanent nature. This plan is concerned with all types of long-term care and all categories of long-term patients, but emphasizes the care of the elderly.

Health care costs for the elderly consumed 25 percent of the 1980 federal budget ($132.2 billion out of a total of $531.6 billion). This includes all federal programs for the aging as shown in Figure 1. Elderly persons required an average of $2,026 per person for health care in 1978 while those under 19 averaged $286 and the 19-64 age group required $765. These expenditures present a major public sociological problem since 64 percent of the expenditures for the elderly were covered by public funds, compared to only 29 percent for the younger population.

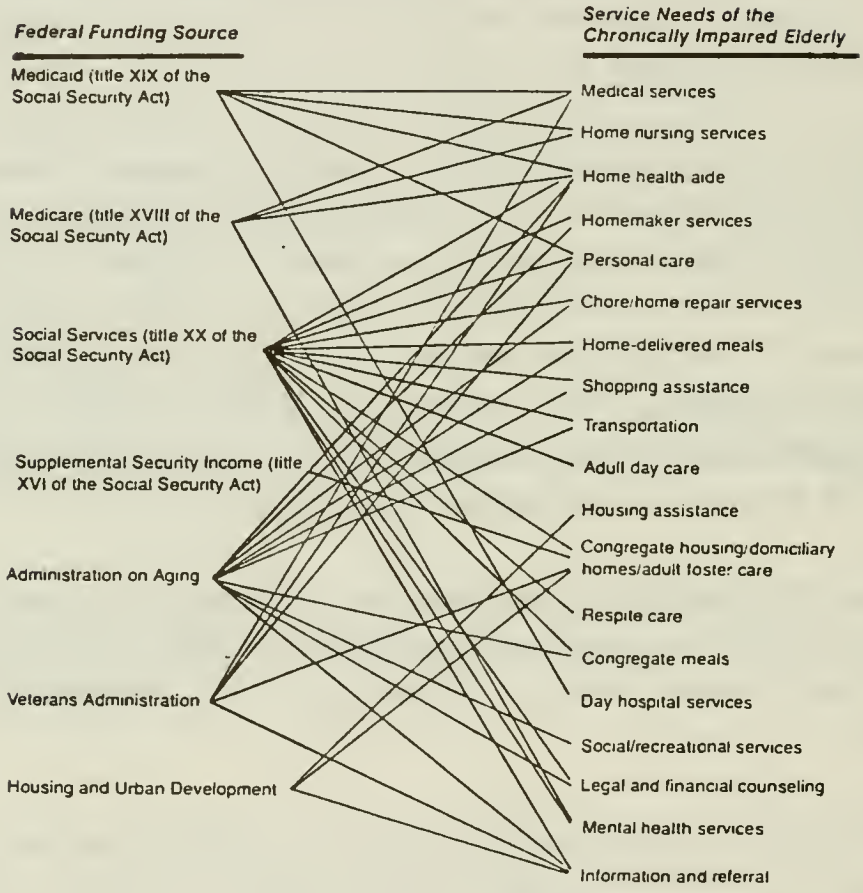
The number of persons in this high need group is also growing. The number of persons age 65 and over has risen from 3.1 million in 1900 to 25.5 million in 1980 and will reach an estimated 31 million by 1990 as illustrated in Figure 2.

The proportion of elderly age 75 and over is growing even more rapidly with 39 percent of the 65 and older being 75 years or older in 1980. By the year 2000, 45 percent of the elderly will be 75 years or older and 12 percent will be 85 or older.

All of this represents an increasing need for care in the face of rapidly escalating costs which are generating a reassessment of public responsibilities and the corresponding questions of the ability to pay. The anticipated service demand would require expansion of the number of long-term care beds and other services for the elderly.

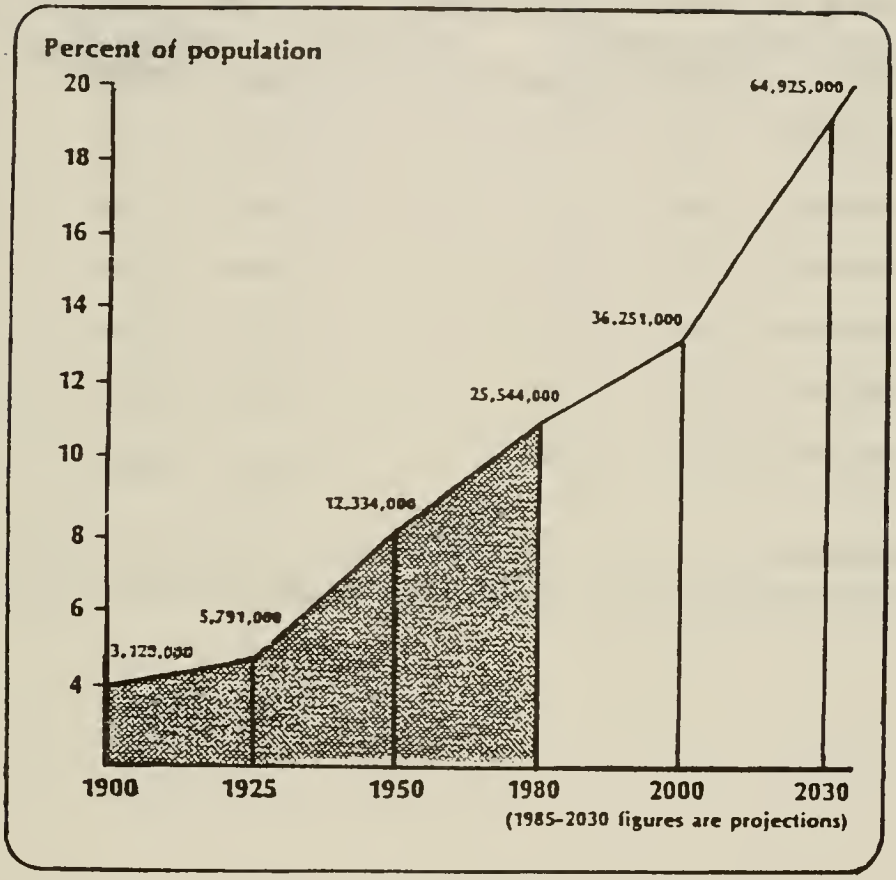
The present system is over 60 percent funded through public programs, particularly Medicaid. Legislative pressure from both the federal and

Figure 1
Major Federal Programs Funding Community Services for the Elderly



SOURCE: U.S. General Accounting Office (1979). Reprinted in the Human Services Monograph Series, No. 21, July 1981, p.6.

Figure 2
U.S. Population, Age 65 and Older, 1900 - 2030



SOURCE: U.S. Census Bureau, Social Security Administration

Table 1
1980 Percent of Elderly Age Groups in Nursing Homes

Region	Age 65 and Over			Age 75 and Over		
	Total	NH ADC	Percent	Total	NH ADC	Percent
Eastern	10,993	824	7.5	4,432	618	13.9
North Central	14,998	999	8.2	6,023	738	12.3
South Central	17,456	1,012	5.8	6,706	783	11.7
Southwestern	21,054	1,320	6.3	8,177	995	12.2
Northwestern	20,058	1,147	5.7	7,693	902	11.7
MONTANA	84,559	5,302	6.3	33,031	4,040	12.2

SOURCE: U.S. Census Bureau

Table 2
1980 Percent of Nursing Home Patients by Age Group

Region	Total No. Patients	Age Under 65		Age 65-74		Age 75 and Over	
		No.	Percent	No.	Percent	No.	Percent
Eastern	856	109	12.7	137	16.0	610	71.3
North Central	1,006	127	12.6	136	13.5	743	73.9
South Central	1,001	104	10.3	171	16.9	726	71.9
Southwestern	1,327	131	9.9	223	16.8	974	73.3
Northwestern	1,162	139	12.0	146	12.6	877	75.5
MONTANA	5,352	610	11.4	813	15.2	3,930	73.4

SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau, Montana Health Data Book and Medical Facilities Inventory, 1984.

state level is beginning to severely restrict availability of funds to finance the care of elderly. As a result, long-term care policy decisions will have a telling effect on health planning in Montana.

The 1983 Montana Legislature enacted legislation to define the term "personal care" and to outline requirements of service for personal care homes. The Department of Health and Environmental Sciences is preparing rules and regulations to provide guidelines for delivery of services for this level of care. Personal care is somewhat less restrictive than nursing home care, and can be delivered in an institutional or residential setting.

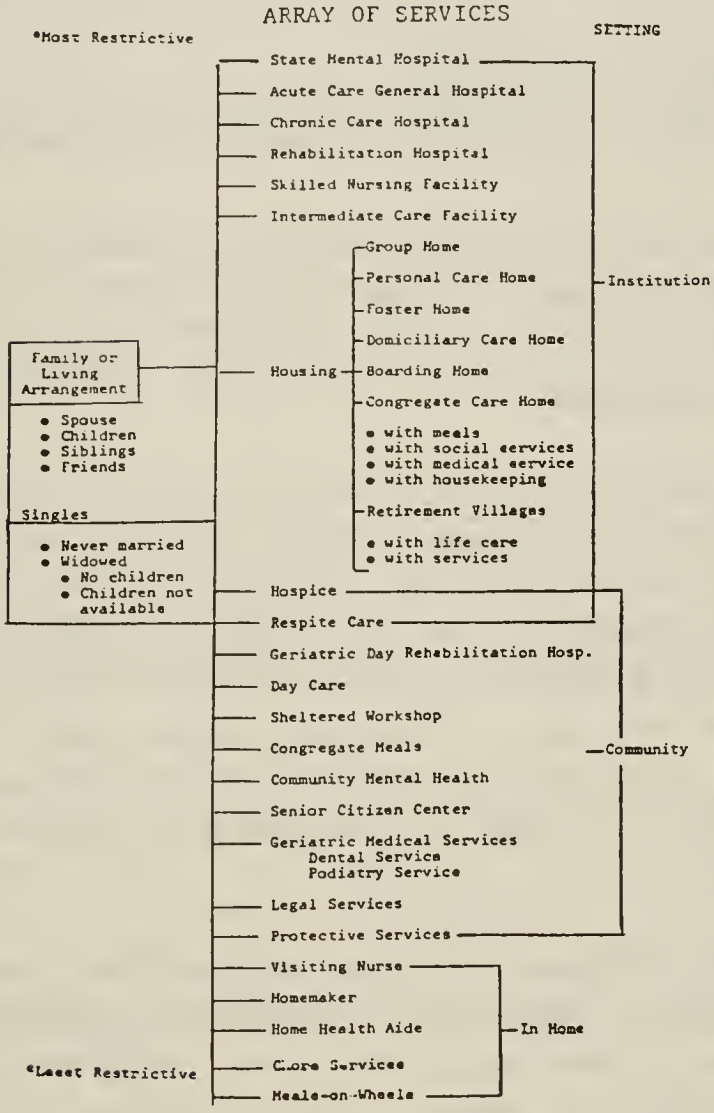
Figure 3 lists a full array of elderly services with the most restrictive settings at the top. All these services are not necessarily available in Montana communities but the larger cities have enough basic services for the elderly to provide continuum of care. A continuum of care provides medical as well as social services and ranges from total institutional care to such services as home health care and nutrition programs.

Other legislation adopted in the 1983 Legislature authorized a "Medicaid Waiver" to provide reimbursement for services other than those previously covered by Medicaid programs. These services include homemaker, personal care attendant, adult day care, respite care and habilitation services.

Previous health systems plans addressed only those services which were "medically necessary." The need projections for nursing home beds have been for medically necessary beds so a new factor has been added by personal care home beds. Some lessening of service requirements can be anticipated for the elderly, particularly those who have been placed in nursing homes because a lower level of care was not available.

To accompany the placement of some elderly into personal care or other less restrictive levels of care, a new dimension of more highly skilled care has been added. The new "Diagnostic Related Group" (DRG) payment plan recently adopted by Medicare has placed a cap on hospital costs for services. This means that earlier discharge from hospitals may increase the need for high level skilled nursing beds to provide needed convalescent time for many patients.

Figure 3
Inventory of Recommended Available Services Appropriate to a Long-Term Care Support System



SOURCE: Stanley J. Brody, J.D., MSW and Carla Mascrocchi, B.A., "Data for Long-Term Care Planning by Health Systems Agencies", American Journal of Public Health, Vol. 70, No. 11, Nov., 1980, p. 1197 (adapted).

These "heavy" care beds will be skilled care beds which are certified for Medicare patients. Most of these patients will be transfers from hospital beds. There may be a definite shortage of this type of bed as presently there are many patients being held temporarily in hospital beds (at hospital rates) until a nursing home bed can be found.

The long-term care facilities in Montana primarily serve the 65 year and older age group. In 1983 the age group percentages were as follows:

Under 65 = 9.5 percent
65 - 74 = 14.3 percent
75 & Over = 76.2 percent
Over 65 = 90.5 percent

By 1990 the over 65 population will have increased to over 100,000[1] persons from 84,560 reported in the 1980 census.

1.2 Services and Settings

Long-term care facilities operated by state and federal government are not addressed in this component. These facilities do not solely serve the communities in which they are located, have restricted admission policies and are not subject to the same regulations. The state-operated institutions include the Montana Veterans Home in Columbia Falls, the Montana Center for the Aged in Lewistown, Eastmont Human Services Center in Glendive, and the Montana State Hospital at Warm Springs. The Veterans Administration Hospitals in Helena and Miles City are federally-operated facilities.

The majority of Montana long-term care facilities having 50 or more beds are operated by proprietary (for profit) organizations. Nursing home chain-type for profit organizations have entered the field in Montana with 20 facilities now in operation. Over 30 percent of the nursing homes are operated in conjunction with hospitals with average long-term bed complements of 40 beds.

1.3 Trends

If present trends continue, the chain-operated facilities will continue to increase in number. The combination hospital/nursing home will also tend to increase as small hospitals and nursing homes consolidate for survival.

Combination facilities appear to be a viable method of delivering both acute and long-term care services in rural areas.

The new reimbursement system eliminates some of the cost-sharing problems of combination facilities while also providing incentives to combine operations.

The DRG Medicare reimbursement system may also make nursing home beds a real asset for the larger hospitals. This new system could force hospitals to transfer patients to nursing home beds in an effort to reduce their costs.

Federal amendments to the Social Security Act now allow usage of swing beds whereby a number of hospital acute care beds can be used for long-term care patients. These beds are licensed as acute care, but do give the hospital some flexibility particularly when the nursing home beds may not be immediately available.

The hospital swing bed concept is primarily oriented to providing temporary nursing care beds in local, rural communities until a nursing home bed is available locally. These beds are for temporary use only and are not an alternative to nursing home care. The swing bed is essentially a Medicare bed for convalescent patients and the hospitals bill swing beds at a lower rate than acute care beds.

Table 4 shows the number of swing beds now licensed in Montana by planning region. This totals 168 beds. Those regions (Eastern, North Central and Southwestern) having the most swing beds also have most of the combination hospital/nursing home facilities. These facilities, due to the presence of nursing home staffing, have little trouble qualifying for swing beds.

2.0 Current Situation

2.1 Availability

Although there are no national standards for the number of long-term care beds needed to serve a population of a given size, some states have established bed-to-population ratios. Texas, for example, is using 80 beds per 1,000 elderly population, while Massachusetts is using 63.8 beds per 1,000 elderly. Massachusetts has also targeted 25.8 "boarding home" beds per 1,000 elderly. North Dakota has established 80 beds per 1,000 for long-term care plus an additional 20 beds per 1,000 elderly for "basic custodial" care.

In Montana in 1976, there were 56 beds per 1,000 elderly.[2] This increased until 1980 when there were 73 beds per 1,000 elderly. Since 1980 the available beds have decreased so that in 1983 the ratio is 69 beds per 1,000 elderly. Table 3 shows beds per 1,000 elderly (age 65 and over) and the number of beds per 1,000 (75 and over) as well as utilization for each county and planning region.

2.2 Accessibility

The geographical distribution of long-term care facilities is illustrated in Figure 4. Of the 61 cities and towns with populations over 1,000, 51 have nursing homes. Fifteen towns having less than 1,000 population also have long-term care facilities.

Of the 56 counties in Montana, only four are without nursing home facilities. They are Golden Valley, Judith Basin, Petroleum and Treasure and are located within or adjacent to the South Central Region.

2.3 Cost

Nursing homes in Montana tend to be somewhat small, averaging 65 beds per facility. It has been pointed out by Reis and Christenson that larger facilities would be more economical to operate in Montana.[3] They have

Table 3

Beds Per Thousand 65 and Over and 75 and Over Listed by Subarea

Area 1 Eastern	1980 65 and Over Number	1980 65 and Over Percent	1980 75 and Over Number	1980 75 and Over Percent	1983 N.H. Beds	Percent Occ.	Beds 1,000 65+	Beds 1,000 75+	Total
Daniels	454	16.0	207	7.3	55	64.7	121	456	2,835
Phillips	734	13.7	318	5.9	60	96.4	82	189	5,367
Roosevelt	1,060	10.1	431	4.1	122	87.6	115	283	10,647
Sheridan	836	15.4	339	6.3	65	96.8	78	192	5,414
Valley	1,159	11.3	446	4.4	92	83.7	79	206	10,250
TOTAL - DISTRICT 1	4,243	12.4	1,741	5.1	394	86.4	93	226	34,333
Dawson	1,143	9.7	427	3.6	75	92.7	66	329	11,805
Garfield	180	10.9	64	3.9	12	56.2	67	188	1,656
McCone	278	10.3	90	3.3	40	95.5	144	444	2,702
Prairie	328	17.9	111	6.0	14	100.3	43	126	1,836
Richland	1,249	10.2	472	3.9	85	85.6	68	180	12,243
Wibaux	201	13.6	90	6.1	40	89.1	199	444	1,476
TOTAL - DISTRICT 2	3,379	10.7	1,254	4.0	266	89.1	79	212	31,718
Carter	273	15.2	125	6.9	21	67.7	77	168	1,799
Custer	1,734	13.2	790	6.0	188	98.7	108	238	13,109
Fallon	395	10.5	133	3.5	32	87.1	81	241	3,763
Powder River	254	10.1	105	4.2	41	86.1	161	390	2,520
Rosebud	586	5.9	234	2.4	47	94.3	80	201	9,899
Treasure	129	13.1	50	5.1	--	--	--	--	981
TOTAL - DISTRICT 3	3,371	10.5	1,437	4.5	329	92.6	98	229	32,071
TOTAL EASTERN	10,993	11.2	4,432	4.5	989	89.2	90	223	98,122

SOURCE: Montana Health Systems Agency.

Table 3
Beds Per Thousand 65 and Over and 75 and Over Listed by Subarea

Area II North Central	1980 65 and Over Number	1980 65 and Over Percent	1980 75 and Over Number	1980 75 and Over Percent	1983 N.H. Beds	Percent Occ.	Beds 1,000 65+	Beds 1,000 75+	Total
Blaine	846	12.0	329	4.7	100	87.0	118	304	6,999
Hill	1,678	9.3	716	4.0	102	95.4	61	142	17,985
Liberty	262	11.3	98	4.2	40	92.9	153	408	2,329
TOTAL - DISTRICT 4	2,786	10.2	1,143	4.2	242	91.5	87	212	27,313
Cascade	7,988	9.9	3,205	4.0	520	96.8	65	162	80,696
Chouteau	796	13.1	313	5.1	51	97.2	64	163	6,092
Glacier	977	9.2	348	3.3	88	71.9	90	253	10,628
Pondera	851	12.6	366	5.4	63	98.7	74	172	6,731
Teton	944	14.5	395	6.1	65	95.5	69	165	6,491
Toole	656	11.8	253	4.6	43	96.9	66	170	5,559
TOTAL - DISTRICT 5	12,212	10.5	4,880	4.2	830	94.2	68	170	116,197
TOTAL NORTH CENTRAL	14,998	10.4	6,023	4.2	1,072	93.6	71	178	143,510
Area III South Central									
Fergus	2,114	16.2	932	7.1	165	98.5	78	177	13,076
Golden Valley	147	14.3	60	5.8	--	--	--	--	1,026
Judith Basin	394	14.9	138	5.2	--	--	--	--	2,646
Musselshell	696	15.7	266	6.0	16	98.4	23	60	4,428
Petroleum	66	10.1	8	1.2	--	--	--	--	655
Wheatland	365	15.5	156	6.6	33	83.0	90	212	2,359
TOTAL - DISTRICT 6	3,782	15.6	1,560	6.4	214	96.1	57	137	24,190
Big Horn	901	8.1	308	2.8	70	72.4	61	179	11,096
Carbon	1,435	17.7	564	7.0	104	91.2	72	184	8,099
Stillwater	889	15.9	346	6.2	81	98.7	91	234	5,598
Sweet Grass	608	18.9	255	7.9	48	98.0	79	188	3,216
Yellowstone	9,841	9.1	3,673	3.4	558	97.8	57	152	108,035
TOTAL - DISTRICT 7	13,674	10.0	5,146	3.8	861	94.3	62	164	136,044
TOTAL SOUTH CENTRAL	17,456	10.9	6,706	4.2	1,075	95.3	62	160	160,234

SOURCE: Montana Health Systems Agency

Table 3
Beds Per Thousand 65 and Over and 75 and Over Listed by Subarea

Area IV Southwestern	1980 65 and Over Number	1980 65 and Over Percent	1980 75 and Over Number	1980 75 and Over Percent	1983 N.H. Beds	Percent Occ.	Beds 1,000 65+	Beds 1,000 75+	Total
Broadwater	408	12.5	166	5.1	18	96.9	44	108	3,267
Jefferson	619	8.8	215	3.1	67	98.5	108	312	7,029
Lewis and Clark	4,124	9.6	1,603	3.7	231	94.1	56	144	43,039
TOTAL - DISTRICT 8	5,151	9.7	1,984	3.7	316	94.9	61	159	53,335
Gallatin	3,234	7.5	1,379	3.2	229	88.8	71	166	42,865
Meagher	278	12.9	92	4.3	31	88.8	112	337	2,154
Park	1,858	14.4	767	5.9	125	94.7	67	163	12,935
TOTAL - DISTRICT 9	5,370	9.3	2,238	3.9	385	90.7	72	172	57,954
Beaverhead	988	12.1	367	4.5	108	76.6	109	294	8,186
Deer Lodge	1,787	14.3	635	5.1	68	98.9	38	107	12,518
Granite	386	14.3	149	5.5	13	94.5	34	87	2,700
Madison	893	16.4	350	6.4	79	88.9	88	228	5,448
Powell	793	11.4	316	4.5	60	97.1	76	190	6,958
Silver Bow	5,686	14.9	2,138	5.6	403	88.1	71	188	38,092
TOTAL - DISTRICT 12	10,533	14.3	3,955	5.4	731	85.9	69	185	73,902
TOTAL SOUTHWESTERN	21,074	11.4	8,177	4.4	1,432	89.0	68	175	181,191
Area V Northwestern									
Flathead	5,367	10.3	2,115	4.1	409	94.7	76	193	51,966
Lake	2,622	13.8	952	5.0	188	93.4	72	197	19,056
Lincoln	1,420	8.0	447	2.5	103	97.9	73	230	17,752
Sanders	1,183	13.6	459	5.3	96	75.0	81	209	8,675
TOTAL - DISTRICT 10	10,601	10.9	3,973	4.1	796	92.4	75	200	97,449
Mineral	334	9.1	110	3.0	20	97.5	60	182	3,675
Missoula	6,134	8.1	2,447	3.2	338	83.4	55	138	76,016
Ravalli	2,989	13.3	1,163	5.2	155	96.9	52	133	22,493
TOTAL - DISTRICT 11	9,457	9.3	3,720	3.7	513	88.0	54	138	102,184
TOTAL NORTHWESTERN	20,058	10.0	7,693	3.8	1,309	90.7	65	170	199,633
TOTAL MONTANA	84,559	10.7	33,031	4.2	5,877	91.4	69	178	786,690

SOURCE: Montana Health Systems Agency.

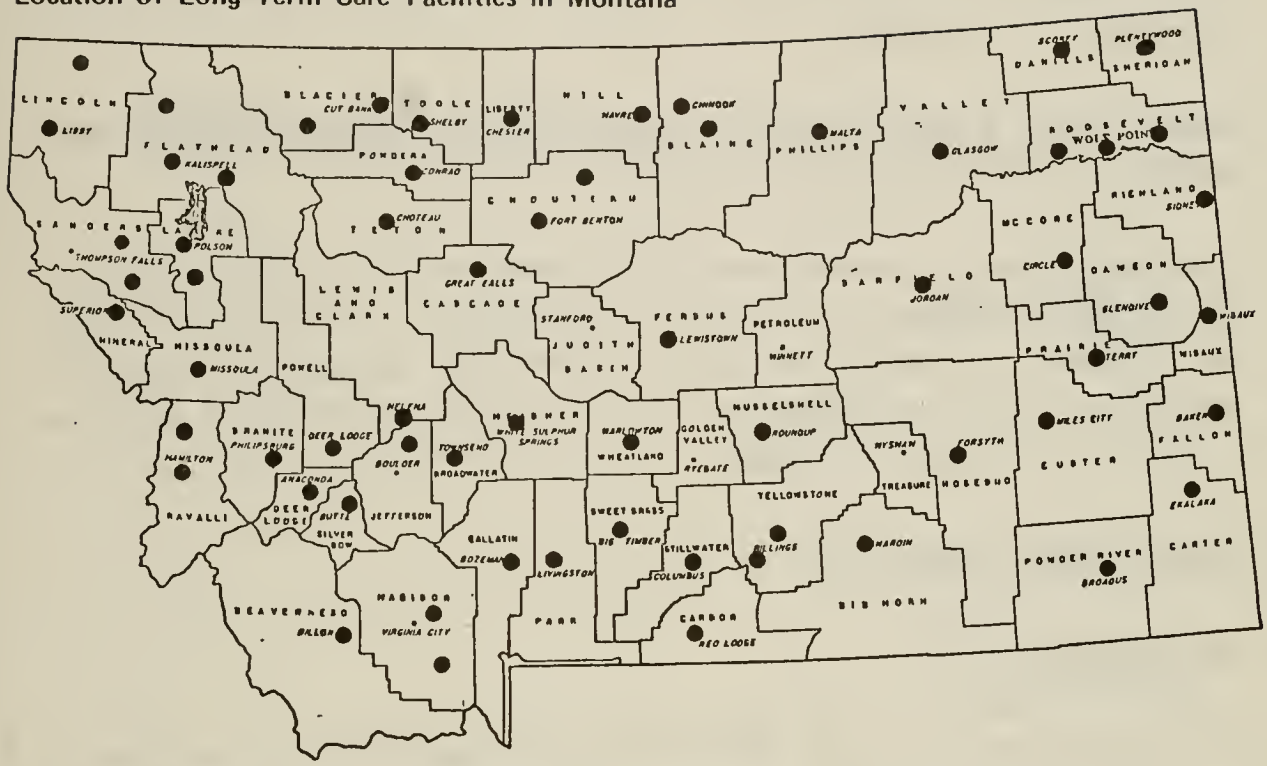
Table 4
Swing Beds in Montana By Planning Region — August, 1984

County	Hospital		Total Beds	Swing Beds	Nursing Home Beds
Eastern					
Dawson	Glendive Community		46	13	75
Fallon	Fallon Memorial		19	7	32
Garfield	Garfield County		8	2	12
McCone	McCone County		20	7	40
Phillips	Phillips County		30	6	60
Prairie	Prairie Community		6	2	14
Roosevelt	Roosevelt Memorial		14	4	40
	Poplar Community		22	8	22
Sheridan	Sheridan Memorial		21	4	65
		TOTAL		53	
North Central					
Chouteau	Big Sandy		9	2	29
	Fort Benton		17	7	22
Pondera	Pondera Medical Center		49	12	63
Teton	Teton Medical Center		22	7	65
Toole	Toole County Memorial		20	4	44
Liberty	Liberty County		11	3	40
		TOTAL		35	
South Central					
Sweet Grass	Sweet Grass Community		17	6	48
Stillwater	Stillwater Community		27	6	81
Fergus	Central Montana		47	8	70
Musselshell	Roundup Memorial		17	5	37
		TOTAL		25	
Southwestern					
Broadwater	Broadwater Community		21	9	18
Deer Lodge	Anaconda Memorial		40	8	68
Granite	Granite County Memorial		10	4	13
Meagher	Mountainview Memorial		6	2	31
Powell	Powell County Memorial		35	10	60
		TOTAL		33	
Northwestern					
Lincoln	St. John's Lutheran		34	4	103
Mineral	Mineral County Memorial		10	3	20
Lake	Mission Valley		30	4	0
Flathead	North Valley		44	11	56
		TOTAL		22	

TOTAL SWING BEDS = 168

SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau

Figure 4
Location of Long-Term Care Facilities in Montana



SOURCE: Montana Health Systems Agency and Montana Department of Health and Environmental Sciences.

indicated that the most economical size for long-term care facilities would be 122 beds, however, geography and the low population density characteristic of Montana indicate a need for smaller facilities if they are to be accessible to the populace.

Figures 5 and 6 show the total expenditures of Montana long-term care facilities for the years 1975 to 1983.

Total annual costs increased from $21.2 million in 1975 to $77.8 million in 1983. This represents an increase of 322 percent. The cost per patient day, likewise, increased from $17.60 to $39.67 per patient day, a gain of 125 percent. Medicaid expenditures for this period went from $7.0 million in 1975 to $41.2 million in 1982.

3.0 Future Resource Requirements

3.1 Availability

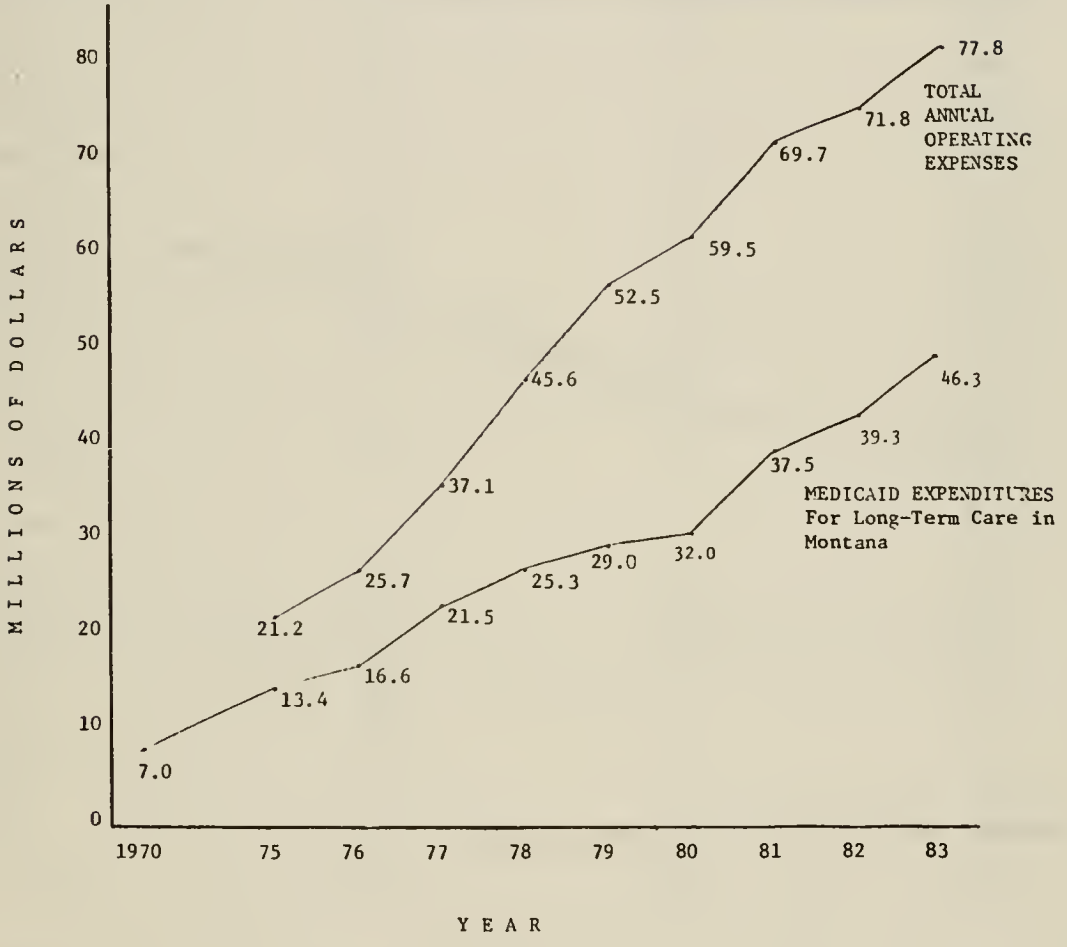
The new survival rates for the 65-and-over population have produced a revision in the projected 1990 population for this age category. The number of long-term care beds projected to be needed in 1990 has been recomputed using the new projections for the 65 and over population and an occupancy rate of 97.5 percent. Table 5 shows the projected need for each county and planning region using the traditional Hill-Burton formula based on historical occupancy rates for 1979-81.

Currently approved for construction are 291 beds. These beds are in addition to the 5,894 existing beds, and have been approved for the areas with the greatest long-term care bed needs. This totals 6,185 beds. Currently, there is a projected net need of 268 beds for the State.

3.2 Accessibility

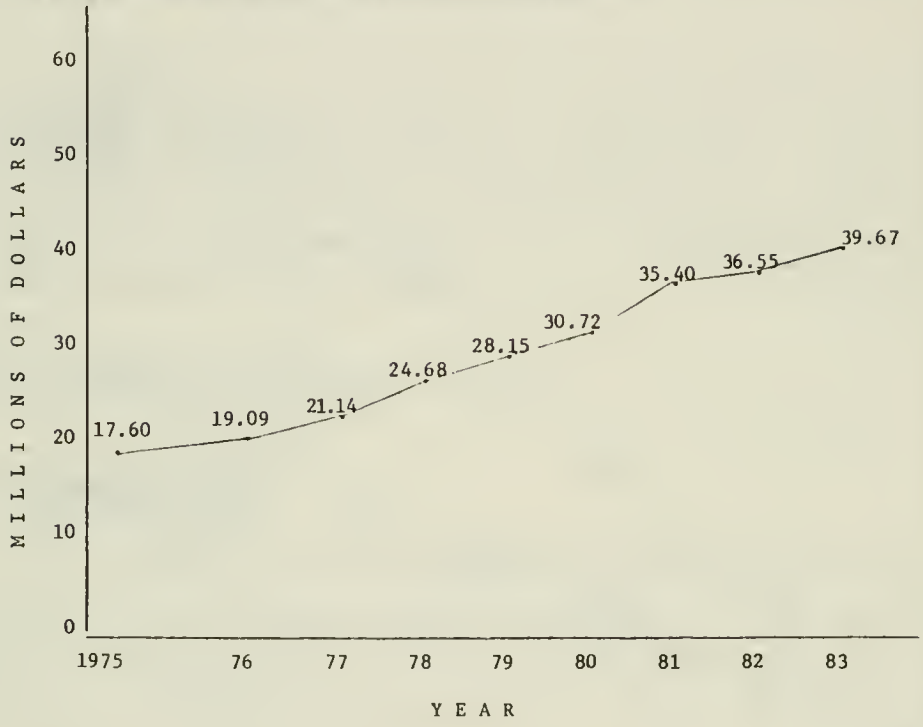
Only four counties in the State have no nursing homes. All other counties have long-term care facilities with utilization indicating the accessibility for that county.

Figure 5
Total Expenditures of Montana Long-Term Care Facilities, 1975—1983



SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau, Annual Reports, 1975-1983 and based on Montana Health Systems Agency intrepretation of data from the Department of Social and Rehabilitation Services, Medicaid Financing Bureau, August, 1984.

Figure 6
Cost Per Patient Day, Montana Nursing Homes



SOURCE: Montana Health Systems Agency.

Table 5
County Bed Need By Patient Day Record and by Population

	1984 Number of Beds Approved	1990 Need by[a] Patient Day	1990 Need by[b] Population
REGION I			
Carter	21	18	20
Custer	188	215	167
Daniels	55	49	39
Dawson	75	84	109
Fallon	32	32	35
Garfield	12	7	18
McCone	40	25	33
Phillips	60	60	58
Powder River	41	30	24
Prairie	14	16	26
Richland	85	89	106
Roosevelt	122	117	93
Rosebud	51	47	64
Sheridan	65	55	75
Treasure	--	--	8
Valley	92	101	95
Wibaux	40	41	16
TOTALS	993	986	986
REGION II			
Blaine	95	106	55
Cascade	577	606	658
Chouteau	71	59	65
Glacier	88	83	80
Hill	102	116	130
Liberty	40	43	26
Pondera	63	74	59
Teton	65	71	69
Toole	43	37	53
TOTALS	1,144	1,195	1,195
REGION III			
Big Horn	70	64	59
Carbon	104	112	81
Fergus	165	196	141
Golden Valley	--	--	10
Judith Basin	--	--	20
Musselshell	37	20	50
Petroleum	--	--	4
Stillwater	81	94	61
Sweet Grass	48	60	37
Wheatland	33	39	20
Yellowstone	658	671	773
TOTALS	1,196	1,256	1,256

Table 5
County Bed Need By Patient Day Record and by Population

	1984 Number of Beds Approved	1990 Need by Patient Day[a]	1990 Need by Population[b]
REGION IV			
Beaverhead	108	80	65
Broadwater	32	20	33
Deer Lodge	68	74	118
Gallatin	229	234	266
Granite	13	12	33
Jefferson	67	76	45
Lewis & Clark	231	318	368
Madison	79*	73	61
Meagher	31	34	19
Park	125	122	126
Powell	60	74	57
Silver Bow	403	440	366
TOTALS	1,446	1,557	1,557
REGION V			
Flathead	504	500	381
Lake	188	213	190
Lincoln	103	110	114
Mineral	20	25	23
Missoula	338	332	460
Ravalli	155	192	208
Sanders	98	87	83
TOTALS	1,406	1,459	1,459
STATE TOTALS	6,185	6,453	6,453

*Does not include 50 Personal Care Beds approved for Twin Bridges.

[a]Calculated with the "traditional" Hill-Burton formula. The formula is:

$$1990\ \text{Beds} = \text{ADC} \times \frac{1990\ 65\text{-and-over population}}{1980\ 65\text{-and-over population}} \times \frac{1}{.975}$$

where ADC is the 1979-1981 Average Daily Census.

[b]$$1990\ \text{County Need by Population} = \text{Regional Need} \times \frac{65+\ \text{population for 1990 for the county}}{65+\ \text{population for 1990 for the region}}$$

SOURCE: Montana Health Systems Agency

If access is to be determined by regional utilization rates, only the North Central and South Central regions show overall need for their regions.

A new factor has been introduced in determining long-term care needs, the new Medicare reimbursement system for hospitals known as Diagnostic Related Groupings (DRG). Because this new system caps the amount to be paid for hospital care, there is a concerted move afoot to place patients in long-term care facilities for a part of the convalescing period. This will increase the need for Medicare beds in skilled nursing facilities and increase average cost for those facilities.

As a possible offset to the DRG, the Medicaid Waiver plan is being implemented in selected counties in Montana. The Waiver program has been slow in developing and there is no real indication as to how many eligibles will be kept out of nursing homes by utilizing other, less restrictive types of care.

If more home health care and other forms of care such as hospice become more readily accessible in the rural, less-densely populated counties, there may be an appreciable number of patients who will use these options. Such possibilities, however, do not have any real affect on projecting need for nursing home beds.

3.3 Cost

Because the average cost of care on a patient/day basis is now at or above the $40 level, it is imperative that alternative sources of care be carefully considered before additional construction of long-term care facilities is approved. The $40 equates to $1,200 per month and totals $14,600 per year. For "heavy care" Medicare patients, the cost could be 50 percent higher, or more.

Both Medicare and Medicaid funding face heavy demands and the funds to finance these demands are in danger of shortfalls. Legislation to bring the system into balance is needed before long-range planning can be effective.

4.0 General Analysis

4.1 Alternatives and Issues

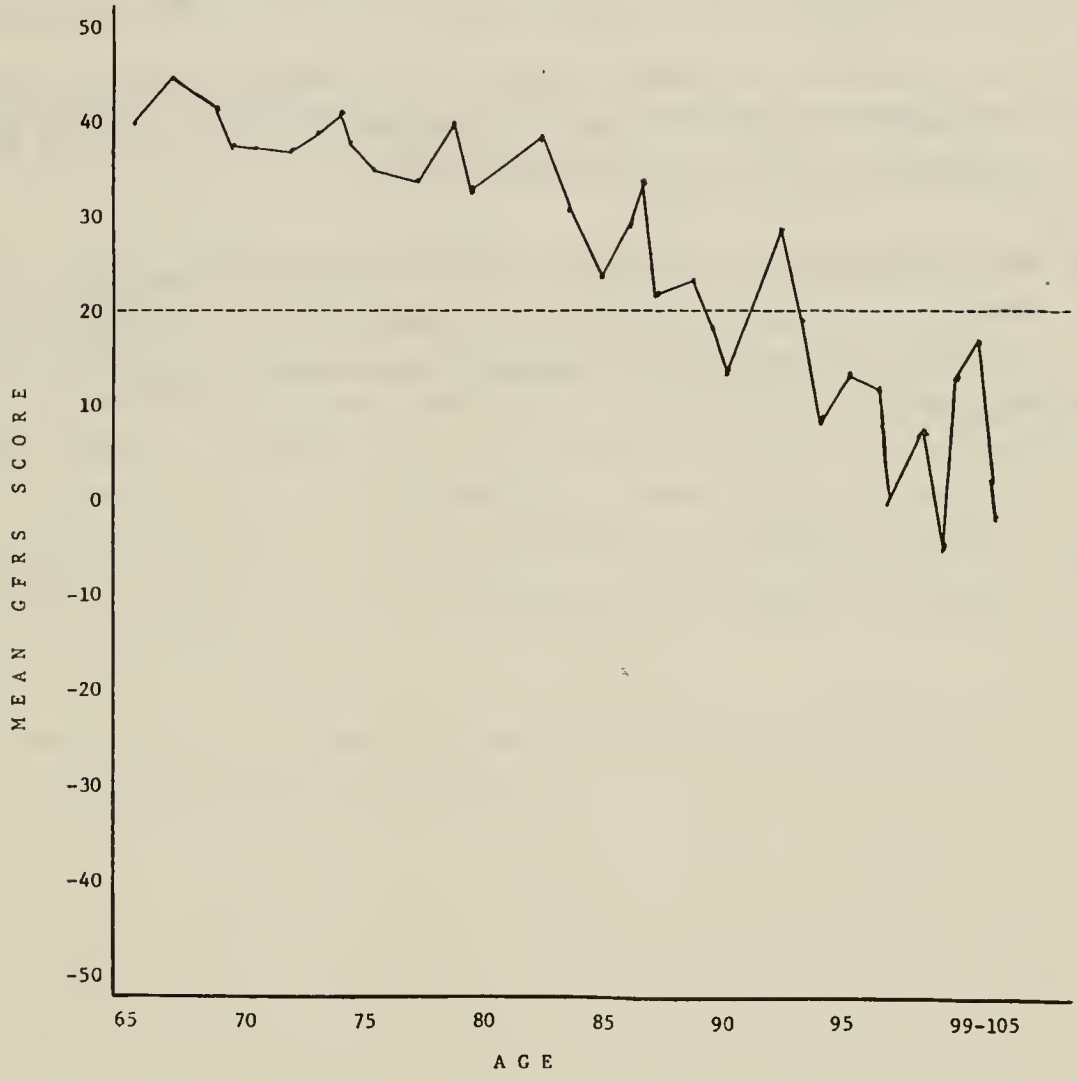
Alternatives to long-term care as addressed in this component include retirement homes, subsidized low income housing, senior citizen apartments, group homes, personal care homes, adult foster care programs, geriatric day care centers, home health care agencies, Medicaid waiver, availability of public health nursing services within the counties, and the ability of doctors and nurses to provide home services to people. These less restrictive types of health care programs should be developed whenever they can be cost-effective alternative sources of care for the service area.

Information is limited on possible uses for unused nursing home beds. In some cases, however, it may be possible to have alternative care services in nursing home facilities by converting some of the unused space into administrative and social/recreational use. Home health, homemaker, therapy services, and meals (on wheels) are provided in nursing homes and are some of the alternative services under consideration. Geriatric day care and respite care are other alternatives that can be housed in otherwise unused space in underutilized nursing homes.

The Geriatric Functional Rating Scale (GFRS) is an instrument used to document the level of functional ability of the elderly population. It is also very useful for projecting institutionalization and alternative program utilization.

The elderly population appears to retain their functional abilities until they reach at least 75 years of age. This would seem to indicate that the population at risk for institutionalization is generally 75 or over, with risk increasing with age. This indication is substantiated by the age of nursing home patients, as 76.2 percent of nursing home residents in 1983 were age 75 or older. It is important to note that GFRS scores of less than 20 generally indicate institutionalization, scores between 20 and 39 indicate a supportive requirement as an alternative to institutionalization and scores of 40 and above indicate functional independence.

Figure 7
Relationship of GFRS to Age — Montana



SOURCE: Cost of Alternative Care Study, Final Report, July 1980, J.R.B. Associates, Inc., Englewood, Colorado.

REFERENCES

1. University of Montana, Bureau of Business and Economic Research, Missoula, Montana, July, 1984.

2. U.S. Department of Health, Education and Welfare, P.H.S., National Center for Health Statistics, Health Resources Statistics, Health Manpower and Health Facilities, 1976, published 1976.

3. Reis, Bernard and Christenson, J.B., "Nursing Home Costs in Montana: Analysis and Policy Application," Unpublished Staff Paper in Economics, Agriculture Economics and Economics Department, Montana State University, Bozeman.

RECOMMENDED REVIEW CRITERIA

1. Proposed construction, expansion and modernization must be compatible with projected bed need for the service area and planning region.

2. Possible alternative methods of providing long-term care should be fully considered by any facility proposing construction and/or expansion.

3. Adequate capital should be available to cover the cost of operating the proposed project.

4. In rural, sparsely-populated communities with bed needs of less than 40, the development of combination hospital/long-term care facilities should be encouraged where there is clear evidence of need. Also, if proven to be cost effective under the new Medicare/Medicaid reimbursement rules, services such as dietary or laundry should be shared between the hospital and long-term care facility.

5. That planning for a long-term care facility cover a period of at least five years of projected need for the facility.

Level of Care Criteria:

The Montana Foundation for Medical Care (MFMC) distinguishes the following levels of care:

1. Acute Care:

Acute care is care which is given for the treatment of a medical condition that requires:

A. Immediate availability of diagnostic and/or therapeutic services with equipment.

B. Continued availability of medical supervision and/or other consulting medical staff.

C. Continued availability of licensed nursing personnel.

2. Long-Term Care:

Long-term care patients may require a combination of skilled and non-skilled services. Level of care of the long-term care patient is not based on diagnoses or severity of medical conditions, but on the type of care and frequency of treatment required. The two basic considerations are:

A. The individual patient's medical needs.

B. The specific services required to fulfill these needs.

1) Skilled Nursing Care

Skilled nursing care is the care given to a patient under direct supervision of licensed nursing personnel and under the general direction of a physician to achieve medically desired results or to assure the safety of the patient. Skilled nursing care must

be distinguished from supportive care. The observation and assessment of the total needs of the patient and the rendering of direct services on a 24-hour basis where the ability to provide the services requires specialized training of an RN or an LPN must be kept in mind.

a. Since skilled nursing care represents skilled services on a continuous basis, the need for a single skilled service (e.g., IM injection twice a week) would rarely by itself justify a decision that skilled nursing care is needed.

b. The classification of a particular service as skilled is based on the technical or professional health training required to effectively perform or supervise the service.

c. The importance of a particular service to an individual patient does not necessarily make it a skilled service (e.g., a primary need of a nonambulatory patient may be frequent changes of position in order to avoid development of decubiti (bed sores)). If changing the patient's position is the only regular and frequent service provided, it would not be a skilled service.

d. The possibility of adverse effects from improper performance of an otherwise unskilled service (e.g., improper transfer of patients from bed to wheelchair) does not change it to a skilled service.

2) Intermediate Care

Intermediate care is the care given to a patient to maintain a stable medical state by meeting his needs of daily living. Intermediate care patients may be provided with some skilled nursing services, but these services are not required on a 24-hour basis.

The determining factor as to whether intermediate level care is required is the type of care required, not primarily the amount of care.

OUTPATIENT SURGERY SERVICES

Goal:

Outpatient surgery services should be available to Montanans at a level commensurate with the needs and qualifications of the population served.

Objectives:

1. Facilities offering outpatient surgery services should provide efficient and cost-effective elective surgery to promote health care cost containment.

2. Standards for quality of care in freestanding outpatient surgeries should be comparable to those of a hospital-based service.

Actions:

1. Certificate of Need for additional outpatient surgery capacity should only be issued to solve problems of patient access.

2. Certificate of Need for additional outpatient surgery capacity should not be issued if the result will be an increase in the overall cost of health care to the community.

3. Montana hospitals should develop institutional policies for outpatient surgery that will provide a scheduled service that is convenient to patients and avoids expenses or hospital stays that would not be necessary in a freestanding service.

1.0 Background

1.1 Service Definition

Ambulatory surgery has been referred to as day surgery, day care surgery, same day surgery, short stay surgery, not-for-admission surgery, in and out surgery, and outpatient surgery. At the lower end of the outpatient surgical services are minor procedures appropriate for office or clinical settings. Based on national statistics and the 1980 Montana census, there were an estimated 150,000 surgical procedures performed in physicians' offices in Montana as outpatient procedures in 1980.[1] There is no intent within the Montana Health Plan to suggest moving those procedures appropriately performed in an office/clinic from their current delivery setting to an outpatient surgery service setting in either a hospital or a free-standing unit.

Identifying procedures for proper use of ambulatory surgical units refers to surgical procedures which are more complex than office procedures performed under local anesthesia, but less complex than major procedures requiring prolonged postoperative monitoring and hospital care.[2]

Basically, outpatient surgery is designed to provide surgical services that require local or general anesthesia and a period of postoperative observation to patients whose admission for an overnight stay is not anticipated as being medically necessary.[3] Surgery considered appropriate for the ambulatory setting is elective surgery rather than urgent or emergent surgery. Elective surgery can be scheduled in advance based on a decision by the patient and physician and not on any special medical indication.[4]

1.2 Services and Settings

Outpatient surgery services in Montana are performed in several distinct settings. These include:

(1) specialized units within hospitals. These units have their own assigned area and staff. In most cases, there is no dedicated

outpatient surgical suite and outpatient procedures are scheduled in the general surgical suite that also services inpatient procedures.

(2) hospital-operated freestanding units. These facilities have dedicated surgical suites available in the unit as well as the necessary professional staff and basic ancillary services. Transportation procedures for emergencies are in place.

(3) freestanding facilities with no organizational ties to hospitals. These units provide pre and postoperative observation areas, surgical suites, necessary professional staff, basic ancillary support services and transportation procedures for emergencies.

1.3 Trends

It has been estimated that 20 to 40 percent of surgery could be done in an ambulatory setting.[5] Figure 1 shows that the percentage of surgeries done in Montana in an outpatient setting has increased from 7.3% in 1978 to 21.6% in 1983. In Figure 2 it is evident that hospital outpatient surgeries have increased while inpatient surgeries and total surgeries have declined in recent years.

2.0 Current Situation

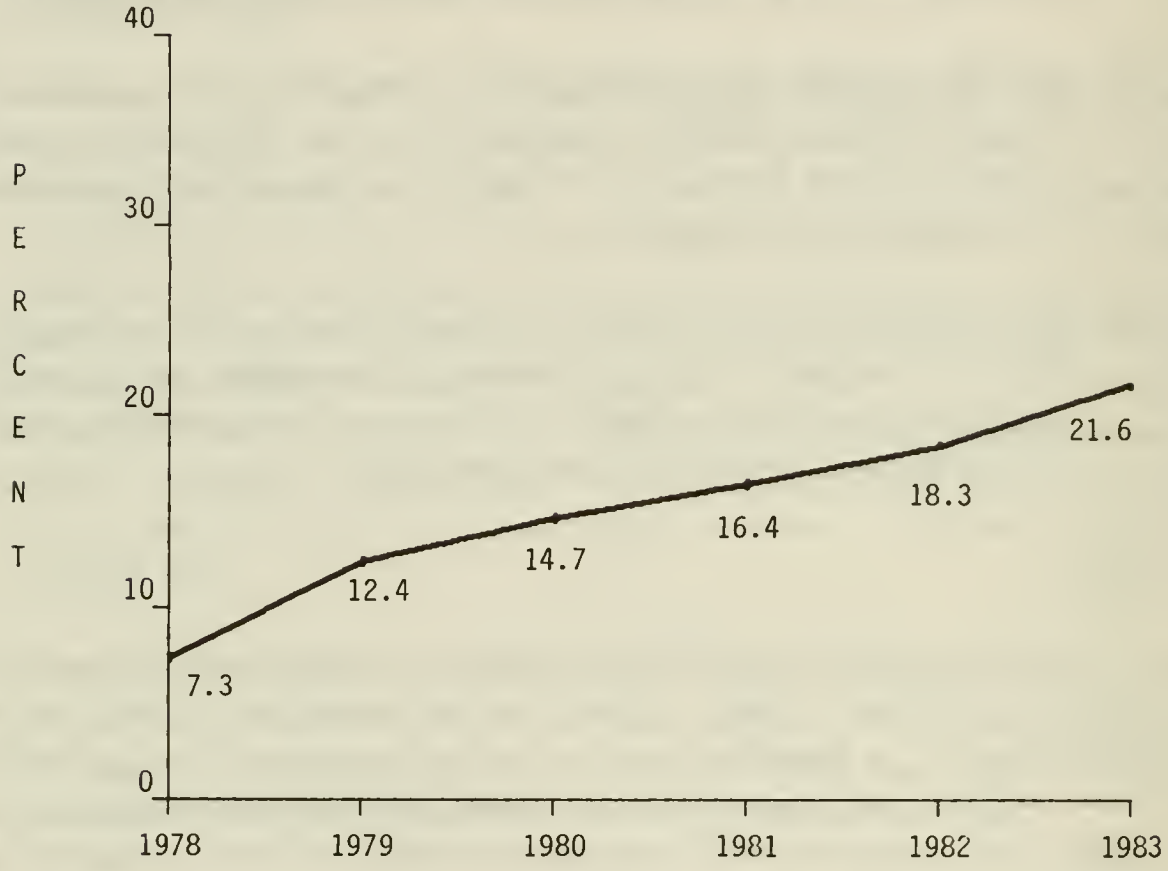
2.1 Availability

Outpatient surgical services were performed in 40 of Montana's 60 hospitals in 1983.[6] Although largely a service provided by hospitals, freestanding non-hospital-based facilities for outpatient surgery exists in Billings and Butte, and Certificates of Need have been given for facilities in Bozeman and Kalispell.

2.2 Accessibility

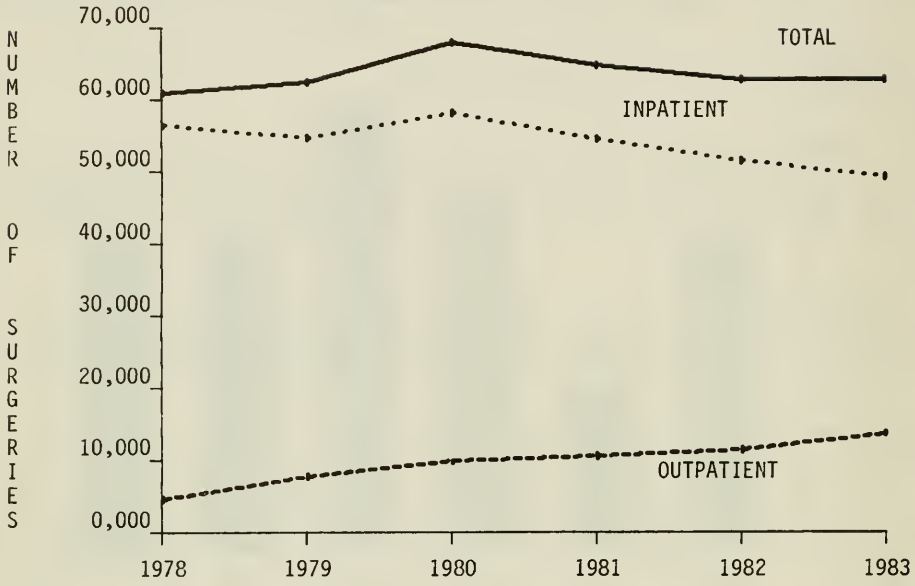
Access to surgical services in Montana exists in all regions. Some regions are supplemented in this service by adjacent regions. Figure 3 depicts

Figure 1
Percent of Hospital Surgery Done Outpatient – Montana, 1978-1983



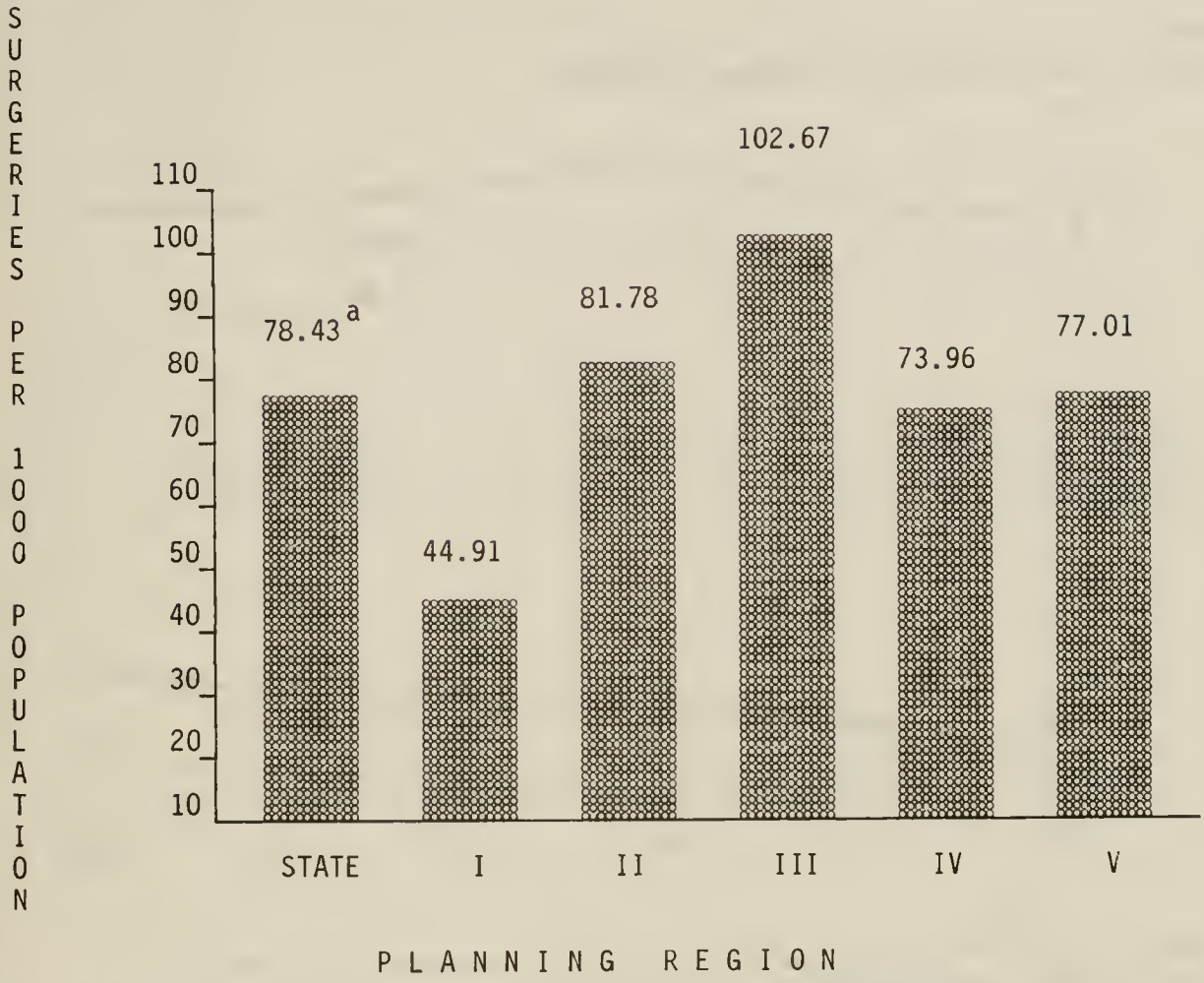
SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau, Annual Survey of Hospitals and Medical Facilities.

Figure 2
Number of Hospital Surgeries — Montana, 1978-1983



SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau, Annual Survey of Hospitals and Medical Facilities.

Figure 3
State and Regional Surgery Rates: 1981-1983 Average



[a]The National Surgical Rate is 84.42/1,000 population (Advance Data, Number 77, Feb. 22, 1982, U.S. Department of Health and Human Services, Public Health Service, Office of Health Research, Statistics and Technology).

SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau, Annual Survey of Hospitals and Medical Facilities and 1980 Census.

this situation by comparing the rate of surgeries done in each region with the state rate. The surgery rate is based on the regional population.

Table 1 indicates that although outpatient surgeries are performed by hospitals of all size categories in Montana, most procedures (79%) are provided through hospitals over 89 beds in size.

2.3 Cost

Implementation of outpatient surgical services will affect the cost of certain surgical services in Montana. Whether this effect is significant or not is dependent upon the number of inpatient surgeries that are replaced by outpatient procedures.

Direct patient savings can be noted at the institutional level; however, whether money is saved at the health care system level is difficult to determine. Analysis of the cost impact of outpatient surgery involves reimbursement policies of third-party payers, behavior of planning and rate review boards, availability and need for surgical services, local bed supply and staffing levels, pricing behavior of hospitals, capital costs and changing styles of medical practice.[7]

There are several advantages to implementing outpatient surgical services which not only have cost implications but provider and consumer benefits as well.[8,9,10] These are:

(1) reduction in the cost of health care (reduced cost per procedure; existing hospital facilities will support a growing population for a longer period of time),

(2) more effective use of physicians' time,

(3) patient convenience (reduced psychological stress of hospitalization for the patient and his family; patient may return to work earlier; local accessibility to certain procedures; simplified admission and discharge procedures), and

Table 1
1983 Surgery Data

Bed Size	Number of Hospitals	Inpatient Surgery	Outpatient Surgery	Total Surgery	Percent Outpatient	Total Outpatient as Percent of State Outpatient
Under 30	30	2,339	456	2,795	16.3	3.4
30 - 89	18	5,941	1,363	7,304	18.7	10.0
90 - 189	7	18,253	5,372	23,625	22.7	39.6
Over 189	5	22,610	5,345	27,955	19.1	39.4
SUBTOTAL	60	49,143	12,536	61,679	20.3	92.4
Northern Rockies	-	0	1,028	1,028	100.0	7.6
TOTAL	60/1	49,143	13,564	62,707	21.6	100.0

SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau, Annual Survey of Hospitals and Medical Facilities.

(4) less medication is administered both pre and postoperatively.

The disadvantages cited for outpatient surgery include:[11,12]

(1) potential for reduced hospital income,

(2) patient resistance (insurance covers inpatient services so patient wants inpatient care; patient regards in-hospital care as safer or better than outpatient care), and

(3) physician resistance (habit; lack of general community acceptance; malpractice concern).

NOTE: With the increased interest in and availability of outpatient surgery services in Montana, the impact of the last two disadvantages has been reduced.

3.0 Future Resource Requirements

3.1 Availability

Hospitals seem to be responding to third-party, consumer, and provider-related interests in outpatient surgery. This response is not simply in the provision of outpatient surgery services, but in the cost efficient provision of the service.

Based on existing trends and estimates of surgeries that can be done as outpatient, a desirable total of outpatient surgeries for Montana for 1990 is 30 percent. Considering the estimate range of 20-40 percent of total surgeries as outpatient surgeries, the 30 percent figure reflects:

(a) an intermediate selection that is not absolute (see reference 5),

(b) a rate of increase in outpatient surgeries comparable to those experienced since 1980 (see Figure 1), and

(c) a continued increase in the numbers of outpatient surgeries even with a decrease in the numbers of total surgeries over the last few years (see Figure 2).

Table 2 depicts projected surgeries.

In Table 2 the number of outpatient surgeries projected for 1990 shows an increase over the number of 1980 outpatient surgeries. However, the 1990 projections for total surgeries may be overstated if the total number of surgeries continues to decline as it has since 1980.

3.2 Accessibility

It is obvious that access to outpatient surgery services through 1990 will be dependent upon the availability of the services. Reduced availability through elimination of existing services is not anticipated. Based on projections of outpatient surgery as a percentage of total surgeries, consideration for need of future outpatient surgery services is given below.

The minimum number of outpatient procedures per year to allow cost efficient operation of an independent (freestanding or hospital dedicated) outpatient surgery program is estimated at 780. This is based on the assumption that an average of 3 surgeries per day is needed. (See References 3 and 4.)

52 weeks x 5 days/week x 3 outpatient surgeries/day = 780 outpatient procedures.

A 1990 desired level of 30 percent of surgeries done outpatient gives a statewide outpatient surgery rate of 23.53 per 1000 persons based on the 1981-1983 average rate of 78.43 total surgeries per 1000 persons. If a hospital attained only the 1982 Montana outpatient surgery rate of 18.3 percent or 14.35 surgeries per 1000 persons, a 1990 surgery service population of 84,967 would be required to initiate an additional service.

Table 2
Montana Outpatient Surgery Target Rate — 1990

Year	Total Surgeries	Outpatient Surgeries	Outpatient as Percent of Total
1980	67,890	9,850	14.5
1983	62,707	13,564	21.6
1990	71,807[a]	21,542	30.0

[a]Projected state population increase applied to the 1981-83 average surgeries.

SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau, Annual Survey of Hospitals and Medical Facilities - 1980-83.

$$\frac{\text{780 Outpatient Surgeries}}{\text{(23.53 - 14.35) surgeries per 1000 persons}} \times 1000 = 84{,}967$$ (the 1990 minimum surgery service population to consider an additional surgery unit)

Table 3 lists the major hospital service areas in the State and their 1990 surgery need projections. A surgery service population base is computed by assigning each service area the proportion of the state's population equal to the proportion of the state's total surgeries done in the area's hospital(s) in 1981-1983. The 1990 surgeries are then computed using the 78.43 surgeries per 1000 rate.

Other comparisons of need and capacity for the same service areas are shown in Table 4 and Table 5. Table 4 shows the number of surgeries per suite in 1990 based on the present surgery suites and 1990 surgery projections. None of these communities would need to perform an average of more than 3.4 surgeries per suite per day to meet 1990 needs with current capacity.

Because the length of procedures performed in a given surgery suite may vary, the number of procedures per suite is not the only significant indicator of the availability or utilization of a surgery suite. A utilization rate is provided by the following ratio:

$$\frac{\text{Total hours of surgical procedures performed}}{\text{Total hours routinely available for scheduling of surgery*}} \times 100 = \text{Percent usage of surgery suite time}$$

(*This is seven hours per day, five days per week in most cases.)

Table 5 provides a comparison of surgeries per day and utilization rates for the major surgery service areas for 1983 and a projection for 1990.

There is not enough projected need through 1990 to justify any new surgery facilities in Montana. There may be need to add a surgery suite in some

Table 3
1990 Surgery Service Population and Surgery Projections

Location	1981-1983 Average Surgeries	Percent of Total State Surgeries[a]	1982 Surgery Service Population	1990/1982 Regional Population Ratio	1990 Surgery Service Population	1990 Surgeries
Great Falls	8,905	14.06	113,561	1.0574	120,079	9,418
Billings	15,894	25.09	202,649	1.1626	235,600	18,478
Helena	3,981	6.28	50,723	1.0679	54,167	4,248
Butte	5,165	8.15	65,827	1.0679	70,297	5,513
Bozeman	3,327	5.25	42,404	1.0679	45,283	3,552
Missoula	8,803	13.90	112,269	1.1354	127,470	9,997
Kalispell/ Whitefish	4,930	7.78	62,838	1.1354	71,346	5,596
Remainder of State	12,345	19.49	157,419	1.1068	174,231	13,665

[a]1981-1983 average total surgeries is 63,350.

SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau, Annual Survey of Hospitals and Medical Facilities, 1981-83.

Table 4
1990 Surgery Suite Use Projections

Location	1983 Surgery Suites	1990 Surgeries Per Suite	1990 Surgeries Per Suite Per Day[a]
Great Falls	13	724	2.8
Billings	23	803	3.1
Helena	5[b]	850	3.3
Butte	7[c]	788	3.0
Bozeman	4	888	3.4
Missoula	14	714	2.7
Kalispell/ Whitefish	7	799	3.1
Remainder of State	63	217	0.8

[a]Based on 260 working days per year.

[b]Does not include the 3 suites at the Veterans Hospital at Fort Harrison.

[c]Signifies the 7 suites available to St. James Community Hospital. It does not include the 2 suites at Highland Outpatient Surgery Center since this facility was not operational in 1983. Highland Outpatient Surgery Center was licensed 9-10-84.

SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau, Annual Survey of Hospital and Medical Facilities and Highland View Outpatient Surgical Center Certificate of Need application approved November 24, 1982.

Table 5
1983 Surgery Suite Use and 1990 Use Projections

Location	1983 Surgeries Per Suite Per Day	1983 Percent Utilization	Projected 1990 Surgeries Per Suite Per Day	Projected 1990 Percent Utilization[a]
Great Falls	2.6	59.7	2.8	64.3
Billings	2.7	39.7	3.1	45.6
Helena	2.5	48.3	3.3	63.8
Butte	2.8	45.3	3.0	48.5
Bozeman	3.1	55.9	3.4	61.3
Missoula	2.4	58.7[b]	2.7	66.0
Kalispell/ Whitefish	2.8	41.9	3.1	46.4
Remainder of State	0.8	under 20	0.8	under 25

[a]Assumes that the time length per procedure in 1990 will be the same as that experienced in 1983.

[b]Missoula General did not report.

SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau, 1983 Annual Survey of Hospital and Medical Facilities and Special Survey for Surgery Information, March 1984.

hospitals to better accommodate outpatient surgery or dedicate a suite to some specific procedures. This need would have to be justified on an individual basis.

3.3 Cost

Although ambulatory surgery performed in freestanding outpatient centers may be performed for less cost per procedure, the total health care costs could increase if local hospital surgical capacity was already meeting the needs of the service area population. Excess surgical capacity created by a freestanding center may lead to unabsorbed hospital overhead. That cost to the hospital may have to be absorbed by inpatient surgery patients.[13]

Duplicative services increase the cost of health care delivery. In areas where the surgical need is being met by existing services, establishment of new services would be detrimental to the existing community service and add to the cost of delivering surgical services to the community.

As patients become less dependent on inpatient surgery and begin to utilize outpatient surgical services, existing hospital facilities will be sufficient to support a growing population for a longer period of time.[14] This trend, as shown in Figure 2, should reduce the total need for hospital beds and may reduce construction needs in the near future.

4.0 General Analysis

4.1 Alternatives and Issues

The health care delivery system must respond to the medical care and direct financial incentive of outpatient surgery. If outpatient surgical services are properly integrated into the overall health care delivery system, the cost of delivery of health care can experience containment while providing quality care.

The integration of outpatient surgery should assure sufficient service capacity for the identified need, provide reasonable access to this service, and avoid duplication of surgical services.

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11. See reference 9, p. 130.

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13. Skousen, Clifford R., and Hooper, Gerald L., "Determining Hospital Surgical Suite Charges," Healthcare Financial Management Association, Dec., 1981, p. 51.

14. See reference 8, p. 61.

RECOMMENDED CRITERIA AND STANDARDS FOR REVIEW

These standards are based on the preceding plan and are to be applied to the review criteria established by law and rule and referenced below. All review criteria in MCA 50-5-304 and ARM 16.32.110 may be applied, but specific standards are established for the following:

1. Criteria (MCA 50-5-304 (1)(c)): The need that the population served or to be served by the services has for the services.

   Plan Standard:

   Freestanding outpatient surgery services are not needed in communities where the hospital has a surgery service population under 85,000 persons, or where present surgery capability is adequate to serve the estimated need through 1990. The surgery service population may need to be calculated locally based on the local rate of outpatient surgery.

2. Criteria (MCA 50-5-304 (1)(e)): The immediate and long-term financial feasibility of the proposal as well as the probable impact of the proposal on the costs of and charges for providing health services by the person proposing the health service.

   Plan Standard:

   Applications for Certificate of Need for new outpatient surgery services should not rely on diversion of surgeries from existing outpatient surgery services or surgeries that can be done safely in physician offices or clinics to reach a financially feasible level of surgeries.

3. Criteria (MCA 50-5-304 (1)(d)): The availability of less costly quality equivalent or more effective alternative methods of providing such services.

Plan Standards:

(a) Outpatient surgery should not be duplicated in any community where present capacity is adequate to serve the estimated need through 1990.

(b) Outpatient surgery services should be subject to utilization review by a qualified review organization. Contracted peer review must be demonstrated by the Certificate of Need applicant during the review process.

(c) Administrative review should be made to ensure that the outpatient surgery service staff and physicians are performing only those services which they are qualified to perform.

(d) Outpatient surgery services must not be offered to persons who are greater than Class II ASA (American Society of Anesthesiologists) anesthesia risk.

(e) Outpatient surgery services should not include procedures which include the opening of a major body cavity.

(f) Freestanding outpatient surgery services must have arrangements for (1) emergency transportation to a hospital and (2) immediate admission to hospitalization services.

PERSONAL CARE SERVICES

Goal:

Personal care services should be available to Montanans who are appropriate for this less-intensive level of long-term care.

Objectives:

1. Personal care service settings should provide appropriate life-safety standards.

2. Standards for quality of care in freestanding residential personal care settings and in institutional settings should be comparable.

Actions:

1. A Certificate of Need is required for personal care services.

2. A Certificate of Need for institutional settings of personal care must be compatible with the projected bed need estimates of the regional and local service areas.

1.0 Background

1.1 Service Definition

A concise definition of personal care can be found in Montana statute 50-5-101(20)(a)(iii). This section of law states that personal care "means the provision of services and care which do not require nursing skills to residents needing some assistance in performing the activities of daily living." A study of personal care issues developed a list of items that should be included in a personal care service definition. These items are categorized into services and resident restrictions.[1]

The services mentioned by the study are:

(a) housekeeping,

(b) laundry,

(c) three meals daily as a dietary service,

(d) staffing requirement of 24 hour on-duty supervision,

(e) minimal assistance with eating, walking, bathing, dressing, getting in and out of bed, and grooming,

(f) supervision of self-medication in accordance with the Nurse Practitioners Act (37-8-102, MCA),

(g) transportation to and from routine medical services,

(h) recreational activities commensurate with the resident's social needs, and

(i) communication.

The resident restrictions or limitations to be considered are:

(a) the resident cannot need medical or physical restraints,

(b) the resident must be able to ambulate, including self-mobility with mechanical assistance,

(c) the resident cannot be bedridden,

(d) the resident cannot require nursing care -- which consists of those professional and practical nursing activities found in 37-8-102, MCA -- beyond intermittent nursing care provided through home health or allowable under the Social and Rehabilitation Services Medicaid waiver system,

(e) the resident cannot be totally incontinent, and

(f) the resident must have a minimum age of 18 years.

A personal care home differs from a roominghouse/retirement home in that a personal care home offers certain management-provided services; a roominghouse/retirement home simply provides sleeping accommodations, linen and housekeeping, and may or may not provide food service. A roominghouse/retirement home is prohibited from providing nursing or personal care services to its occupants.

1.2 Services and Settings

Personal care services have been provided in Montana in several settings. These include:

(1) personal care beds within the institutional setting of a licensed nursing home,

(2) personal care services provided in licensed roominghouses/retirement homes (this situation has been addressed by 1983 statutory changes

governing roominghouses/retirement homes to specifically prohibit nursing care and personal care services from this setting, except by authorized third-party providers), and

(3) personal care services provided in unlicensed facilities (this situation has also been addressed by the 1983 law which requires a license for personal care facilities).

It is estimated there are approximately 20 facilities currently licensed as roominghouses/retirement homes that may qualify as personal care facilities. The number of residents or beds in the 20 facilities is given in Table 1.

1.3 Trends

The previously unlicensed or inappropriately licensed personal care facilities maintained that particular licensure status because the buildings in which they are located were not capable of meeting the institutional building and life safety standard. The study of personal care issues recommends that, for the proper type of resident, a residential building and life safety standard was acceptable. With this philosophy, statutory and regulatory changes were made to have personal care services provided in appropriately licensed facilities meeting proper building and life safety standards. This law makes possible the following settings for personal care services for residents meeting the restrictions mentioned in Section 1.1:

(1) within a licensed nursing home which meets institutional standards,

(2) within a licensed freestanding personal care facility constructed to meet institutional standards, and

(3) within a licensed freestanding personal care facility constructed to meet residential building and fire standards.

Table 2 shows the current resident numbers for each of the three settings mentioned in Section 1.3.

Table 1
Residential Personal Care Residents/Beds — Montana, June 1984

Number Of Beds	Region I	II	III	IV	V	State
Occupied	20	45	-	58	119	242
Unoccupied	6	9	-	9	48	72
TOTAL	26	54	-	67	167	314

SOURCE: Department of Health and Environmental Sciences, Survey of Freestanding Facilities, June, 1984.

Table 2
Personal Care Residents — Montana, 1983

Type of Facility	Number of Residents
Nursing Home	40
Freestanding Institutional Personal Care Home	0
Freestanding Residential Personal Care Home	242

SOURCE: Department of Health and Environmental Sciences, Licensing and Certification Bureau, and Survey of Freestanding Facilities, June 1984.

2.0 Current Situation

2.1 Availability

The majority of personal care services in Montana have been offered in facilities licensed as roominghouses/retirement homes. Legislative and administrative action has been taken to remedy inappropriate use of that license, and to provide an acceptable replacement for licensure of personal care facilities.

Many of the currently licensed roominghouses/retirement homes are appropriately licensed and will maintain that licensure. Other facilities are providing personal care services and will require proper license classification.

2.2 Accessibility

Personal care services are available in many Montana communities. With the clarification in license status, facilities can be identified based on the services provided.

2.3 Cost

The availability of personal care services prevents excess costs from being applied when the service level needed by the resident is that of personal care rather than nursing care.

Quality of care and safety considerations require that persons needing nursing care not be placed or allowed to remain in personal care homes. Those persons requiring skilled or intermediate nursing care beyond a brief/intermittent period are most appropriately placed in the setting that can best provide for their life safety as well as their nursing needs -- that being a nursing home.

Table 3 gives some cost comparisons for nursing homes and personal care facilities in Montana in 1984.

Table 3
Cost Comparisions: Nursing Home & Personal Care Homes – Montana, 1984

	Region I	II	III	IV	V	State
Nursing Home						
Charge per Day	$38.29	$44.83	$38.88	$43.43	$42.64	$41.73
Percent Private Pay	45%	41%	40%	29%	32%	36%
Percent Medicaid	49%	52%	53%	64%	63%	58%
Percent Medicare	1%	3%	2%	5%	4%	3%
Percent Other	5%	4%	5%	2%	1%	3%
Personal Care Home						
Charge per Day	$20.96	$26.85	--	$25.48	$16.95	$21.04
Percent Private Pay	70%	100%	--	100%	70%	80%
Percent Medicaid	0	0	--	0	0	0
Percent Medicare	0	0	--	0	0	0
Percent Other[a]	30%	0	--	0	30%	20%

[a]Includes Supplemental Security Income funds, and county supplement for Missoula County in Region V.

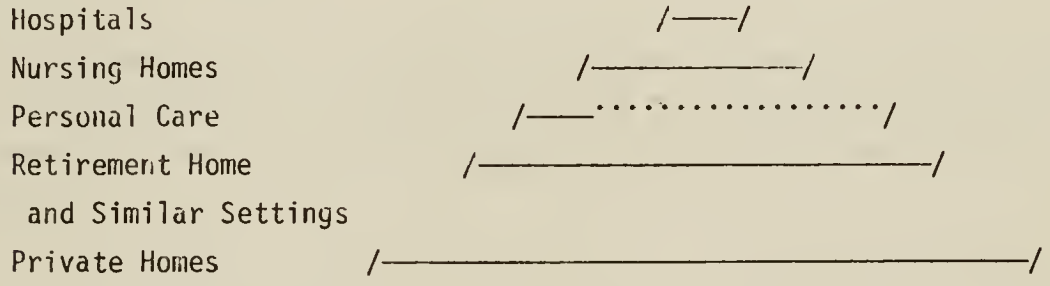
SOURCE: Montana Department of Health and Environmental Sciences, Survey of Freestanding Facilities, June, 1984, and Annual Survey of Hospitals and Medical Facilities, 1983.

3.0 Future Resource Requirements

3.1 Availability

Personal care services will continue to be available to private pay persons who need some assistance with daily living, and yet are not candidates for residency in a nursing home. Table 4 includes a personal care bed projection for 1987 and is intended as a guideline. Personal care beds are not evenly distributed throughout the State; consequently, potential for development of more beds designed for this purpose may exist to improve availability.

It appears that personal care is a service that, although needed, does not fit into the natural pyramid picture of places where elderly people may reside for a time. This distribution has a bed number diagram as follows:



Personal care is a useful and needed service; however, since no reimbursement provisions exist for the provision of personal care, growth in the number of personal care beds in relation to other bed numbers is not expected to increase substantially. Personal care is also a service with more flexibility in service setting and may be provided in private homes and retirement homes through home health services or in conjunction with nursing homes.

3.2 Accessibility

Personal care services can be accessed by those individuals who have private pay means to pay for the services. Since personal care is not reimbursed under Medicare or Medicaid, the recipients of the service must

Table 4
Personal Care Bed Projection

Year	65+ Population[a]	Existing Beds	Bed to Pop. Ratio	1987 Projection
1984	91,557	314[b]	3.3/1000	--
1987	96,806	--	--	6.5/1000[c]

[a]Based on straight line extrapolation of 1980 census and 1990 projection of the 65+ population.

[b]Includes only residential personal care beds. The 40 existing institutional personal care beds are not included.

[c]Based on an increase in residential personal care beds that would double the 1984 number of beds.

SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau.

be able to pay from private or supplemental resources. There is no evidence at present to determine whether or not there would be financial or other advantages to increased accessibility.

3.3 Cost

Personal care homes, with less restrictive and generally less expensive construction costs and reduced staffing requirements as compared to nursing homes, will continue to be a less costly setting for elderly residents who require that level of care. More experience and more data will be required to determine the overall impact of personal care services on health care costs.

4.0 General Analysis

4.1 Alternatives and Issues

The continuum of care for residents of Montana includes acute and long-term care. Personal care services should help to reduce the substitution of intermediate care for the less intensive, less institutional needs of some patients.

The greatest issue for resolve when addressing personal care is that it is a service to be provided to those persons who are appropriate for that level of care. Current and potential personal care residents should be protected from costs and disruptions of service that could result from too rapid expansion of this level of service.

REFERENCE

1. Senate Joint Resolution 34: A Report to the Forty-Eighth Legislature; Legislative Advisory Committee and Bureau of Health Planning and Resource Development, December, 1982.

Plan Standard:

Personal care beds located in a nursing home or any building constructed in substantial conformity to institutional standards will be counted in the long-term care bed need and supply numbers.

PRIMARY CARE SERVICES

Goal:

Primary care services should be available and accessible to residents of Montana in sufficient quantity to adequately provide preventive and curative care; provide referral to specialized care when needed; and reduce the need for, and dependence on, acute hospital services. To foster this,

1. all Montanans should be knowledgeable of the benefit attributed to preventive measures and have access to these measures;

2. primary care services should be available at the times people need such services and should be provided in settings that promote continuity of care, minimize cost per visit, and facilitate interaction between the provider and the patient;

3. physician's assistants and nurse practitioners should be utilized to improve availability and accessibility to primary care services;

4. reimbursement plans should not pose financial barriers to access to primary care services; and

5. more information should be available to both consumers and providers of medical services about the holistic approach by utilization of all pertinent paraprofessionals.

Objectives:

1. By 1990, decrease the number of cigarette smokers in Montana by 10% particularly among women. Cigarette smoking is the single most preventable cause of death and disease.

2. By 1990, decrease by 10% the percentage of Montana adults who are overweight (currently 44% of adults are overweight).

3. By 1985, begin to promote the study and development of cost-effective alternative service delivery systems which foster the appropriate utilization of services.

4. By 1986, education programs designed to reduce non-emergency use of emergency room services should be developed.

5. Hospital emergency and outpatient departments should develop differential fee schedules that would make charges appropriate for the services rendered.

6. By 1990, Montana should have a ratio of no less than one primary care physician to 3,000 persons.

7. By 1990, the use of nurse practitioners and physician's assistants should be increased by at least 50% (at sites of primary care delivery) from the present approximate numbers of 60 to 65 nurse practitioners and 12 physician's assistants.

8. By 1990, the primary care manpower shortage areas should be eliminated.

Actions:

1. Continue to support both the WICHE and WAMI programs for educating Montana students.

2. Encourage the expansion of community health nursing programs in the State University System.

3. Continue to assist local groups in the recruitment of primary care physicians and nurse practitioners.

4. Promote patient education as a major component of primary care service delivery in Montana.

5. Provide reimbursement incentives for emergency facilities to refer non-emergent patients to primary care providers.

1.0 Background

The most effective strategy for reducing health care costs is to educate, inform, and motivate the public to actively pursue healthful lifestyles. It is more sensible and cost-effective to prevent illness rather than try to cure them at the acute stage. Public education, which fosters risk reduction activities and commits the public to maintain a healthful lifestyle, will generate significant reductions in health care cost, as well as enhance the overall quality of life.

Unfortunately, in spite of the growing recognition of these facts, health education and other prevention services have not received sufficient attention and resources. Despite the encouraging evidence on potential benefits (i.e., better health, fewer and smaller doctor and hospital bills, longer life, greater productivity, improved ability to cope with everyday stresses, etc.) estimates are that less than a dismal two percent of the total amount spent on health care is devoted to keeping people well and over 98% is spent on cure-oriented medicine.

A preventive approach is an essential feature of the concept of primary health care. The U.S. Surgeon General's Report of 1979 and reviews of health service systems and the health status of the populations in other developed countries indicate the need to reevaluate past policies that emphasize curative systems and formulate new ones with greater attention to promotion of better health for the whole population and for specific risk groups. The decade of the 1980s is forecast to emphasize the promotion, rather than just the restoration, of good health. In this era of economic stringency, the future development of Montana's health care has to be based on primary health care. In contrary, the experience of the past few years in Montana and the nation indicate continuing emphasis on tertiary care.

Our school systems have not done a satisfactory job of inculcating in the pupils the wellness orientation. The wellness approach is an educational process which blends well into the functions of the school systems.

Wellness, however, is more than just a course in nutrition or human biology. It is a way of life that demands personal responsibility and

accountability for one's own health and well-being. It is, therefore, not an obligation of the schools alone. Parents and families also have to share this burden. It may be useful and sometimes necessary to teach wellness in parenting classes so that when we as parents are trying to raise our children properly, we instill in them the attributes of wellness and personal health care.

1.1 Definition

Primary Health Care: Primary health care can be and has been interpreted in four different ways:

1. as a set of services;
2. as a level of care;
3. as a strategy for organizing health care; and
4. as a philosophy

In this plan component, primary health care is viewed as a combination of all four interpretations. As a set of services, primary care is organized into several basic components: health education; adequate nutrition and food supply; provision of safe drinking water and basic sanitation; immunization against locally endemic diseases and other preventive measures; basic treatment of diseases; mental health; and drug supply.

As a level of care, primary health care is seen as consisting of the front-line services provided closest to the population; the care the consumer receives at the point of contact with the health care delivery systems.

As a strategy of organizing health care and philosophy, primary health care means that the services have to be: characterized by self-reliance; socially acceptable; accessible; based on community participation; comprehensive, continuous and family-based; functionally integrated; geared to the needs of high-risk, vulnerable and underserved groups; cost-efficient; and using appropriate technology.[1]

Primary health care implies continuity of care. It must be supported by mutual referral systems to ensure that people in need will benefit from facilities too sophisticated to apply routinely to primary health care and to return recovered individuals to the community with adequate information and follow-up plans.

Wellness: Wellness is a new word and an increasingly important concept in the United States. Wellness usually refers to an active program of care for healthy people -- a program going beyond treatment or traditional prevention. The idea is not only to avoid illness, but also to approach optimal well-being. Wellness requires each person to take responsibility for improving his own health and his own life -- physically, mentally and spiritually.

1.2 Services and Settings

The range of primary care services has been discussed in the foregoing. Montana provides a variety of settings for primary care services ranging from sophisticated group practices in such areas as Billings, Great Falls, Missoula, and Helena to solo practices in remote settings in Eastern and Central Montana.

Generally, the two predominant modes of primary care delivery are: 1) ambulatory settings which include physician's offices, freestanding clinics, clinics sponsored by local health departments, neighborhood health centers, nurse practitioner's offices, and 2) hospital settings which include emergency departments and outpatient clinics.

1.3 Trends

Broad trends relating to delivery of primary care indicate a decrease in the proportion of physicians trained in primary care specialties, an increase in the use of physician's assistants (PAs) and nurse practitioners (NPs) in the provision of care, and a change in the setting of service delivery.

Data from across the nation indicate a dramatic decline in the ratio of primary care physicians to population over the last two decades. While the trend seems to be reversing itself in recent years, the proportion of primary care physicians to specialists continue to decline.

PAs are trained to provide patient care services under the direct supervision of a licensed physician, primarily in an office setting, and perform tasks essentially medical in nature. The duties of the PAs may include the following functions:

-- receiving patients, obtaining case histories, performing appropriate physical examinations and presenting meaningful resulting data to the physician,

-- performing or assisting in laboratory procedures and related studies in the practice setting,

-- giving injections and immunizations,

-- suturing and caring for wounds,

-- providing patient counseling services and referring patients to other health care resources,

-- responding to emergency situations which might arise in the physician's absence within the assistant's range of skills and experience, and

-- assisting the employing physician in all settings such as the office, hospitals, extended care facilities, nursing homes, and the patient's home.[2]

The NP role has been an evolutionary nursing role, affected by scientific, social, economic and political forces. The NP possesses a license to practice as a registered professional nurse and is legally liable for his/her own practice. The law does not place the registered nurse under the supervision of any other health discipline. The NP is prepared to

provide primary care services through a formal post-basic professional nursing education program, criteria for which are specified in the Montana Nursing Practice Act, ARM Rule 8.32.305. The Montana Nursing Practice Act defines the scope of NP practice as:

Nurse practitioner practice is the management of primary health care of individuals, families, and communities, including the ability to:

-- assess the health status of individuals and families through health history taking, physical examination, and defining of health and development problems,

-- institute and provide continuity of health care to clients (patients), work with the client to ensure understanding of and compliance with the therapeutic regime within established protocols, and recognize when to refer the client to a physician or other health care provider,

-- provide instruction and counseling to individuals, families, groups in the areas of health promotion and maintenance, including involving such persons in planning for their health care, and

-- work in collaboration with other health care providers and agencies to provide, and where appropriate, coordinate services to individuals and families.

Nurse practitioners can contribute to accessible, quality primary care in Montana because their major emphasis is health promotion, health maintenance, and disease prevention. In communities where there is a need for routine health promotion and wellness care, recruitment of NPs for independent practice would be appropriate. In communities where a broader range of primary care services is needed, including maintenance of chronic health problems and intervention for common acute illnesses, the NP can adequately care for 70 percent of these needs in consultation/collaboration with a physician. Thus, the roles of the NP and the physician are complementary and not substitutive.

In terms of effectiveness of PAs and NPs, the literature indicates that the productivity of physicians can be substantially increased. Several studies indicate that PAs have increased the productivity of a physician's practice (in terms of number of patient visits) from 12% during the first year of training to 37-40% in subsequent years.[3,4] The usefulness of PAs in rural and medically-underserved areas has been documented in studies from the rural southeast which indicate that PAs/NPs can care for a large percentage of patient problems in a general practice setting.[5]

Studies on the productivity of NPs demonstrate similar results to those cited above for PAs. A review of the literature relating to the use of NPs in a pediatric practice indicates a physician's time can be reduced by 50% by the use of 1.5 pediatric NPs.[6] Another study of NPs in primary care practice indicates that NPs were able to function alone successfully in 67% of all patient visits.[7] The use of PAs/NPs has generally gained favorable acceptance by the public, physicians, and health professionals. A study conducted for the Board of Medical Examiners, State of California, found that 80% of the general public sampled would react favorably toward being cared for by a NP or PA. The study also found that approximately two-thirds of the physicians expressed interest in employing NPs or PAs.[8]

Some of the problems associated with the use of NPs/PAs (mainly from the physician's point of view) include malpractice insurance, reimbursement by third-party payors, the delegation of patient care responsibilities, and the kind of legal corporate structure within which a NP or PA can act. Despite these problems, the supply of PAs/NPs can be expected to increase in the future. The availability of primary care services in Montana is dependent upon the willingness of all health professionals to collaborate with each other and the ability of the region to attract primary care providers to a rural setting.

A relatively recent and alarming trend in the delivery of primary care services has been the increasing use of hospital emergency facilities by patients whose conditions do not require this type of care.[9] Between 1980 and 1982, visits (per 1,000 population) to emergency rooms in Montana increased by approximately 11%.[10] More recent data indicate that the trend

in emergency room utilization is stabilizing to some degree on a statewide level.

The increasing use of emergency rooms by non-emergent patients has negative implications for the rapid care of emergent patients, continuity of care for the patient requiring only primary care, and the cost of services. The non-emergent patients inundating emergency rooms may make it difficult to provide prompt treatment to true emergencies, while the patient seeking primary care may also be required to wait an extended period for services. There is also usually little follow-up provided for patients treated in hospital emergency rooms. In most cases the emergency room physician is not the culprit. Emergent patients are usually referred to physicians in the community for follow-up if follow-up is necessary. Many of these patients, however, fail to report to the recommended community physician after what they see as their immediate health problem has been taken care of by emergency room personnel. Since the cost of primary care provided in a hospital emergency department may be two to five times higher than the same care provided in a physician's office, the inappropriate use of these facilities has dramatic implications for health care costs.

Recently, a few Montana hospitals have developed a different approach to the emergency room utilization dilemma. Emergency room charges are graded according to the intensity of the person's illness or accident. This approach is a definite improvement over past practices. Nevertheless, even if some hospital emergency room charges are graded according to the intensity of service provided, the total charge including physician and emergency room fees for any non-emergent visit would still cost considerably more than the same service provided in a doctor's office. Therefore, while this new approach to emergency room charges is recognized as a positive step in the right direction, it cannot be accepted as a satisfactory mode of delivering primary care services.

Another related recent development is the emergence of "walk-in care centers." These are primary care clinics with office hours from 8:00 a.m. to 10:00 p.m. five days a week and Saturday mornings. These facilities could provide primary care for people with unexpected illness or accident which does not require emergency room service. If this type of service is

provided in a group practice setting, then continuity of care could be assured. This approach is more applicable to large communities.

Because the increasing use of emergency facilities by non-emergent patients can be tied directly to a shortage of primary care providers, a reversal of this trend will require an increase in the availability and accessibility of primary care services. Without such an increase the use of emergency services by primary care patients can be expected to continue to increase.

However, in many small communities there are no emergency room physicians and the physicians there must cover unexpected illnesses and accidents in the evenings and nights by using the hospital emergency room or opening their own office if they cannot manage the problem over the phone.

No single category of primary care providers has the capacity to fulfill effectively all the tasks and responsibilities of primary care outlined earlier: team work is required among physicians, nurse practitioners, nurses, physician assistants, and social workers.

Recently, Sidney Garfield, originator of the Kaiser Permanente Health Plan, has tested an entirely new and innovative team approach to primary care. Access to care for each new patient is through a comprehensive health evaluation service consisting of multiphasic health testing in combination with physical examination by a nurse practitioner under physician supervision. The patient is then referred to one of three services:

1. a health care service for the well and worried well (health education, immunization, posture and exercise, psychosocial and drug abuse counseling, nutrition, adolescent, family planning, prenatal, and well baby clinics);

2. a preventive maintenance service (clinics for obesity, diabetes, hypertension, arthritis, back ailments, mental health, geriatric problems, and rehabilitation); and

3. a sick care center, providing integrated clinic and hospital facilities for acute and chronic care.

The first two services -- health care and preventive maintenance -- are operated by paramedical staff with medical supervision, and the sick care center by the medical staff with paramedical assistance.[11,12] As innovative as this plan is, it requires full support (in the form of reimbursement incentives) from third-party payors in order to make it work. Unfortunately, insurance plans, traditionally, have favored hospital services.

Effective primary care requires the full use of the remarkable scientific and technical advances of this century for diagnosis, treatment, and rehabilitation and, above all, for health promotion and disease prevention. It is therefore essential that new types of primary care teams be developed, based not on the habits and traditions of the past but on the needs and possibilities of the present. To do this requires a spirit of inquiry, the willingness to experiment with new forms and approaches, and the fullest possible discussion of alternatives in as objective a manner as possible.

Health Status Trends

Infant Mortality: The infant mortality rate in Montana has declined from a high of 21.5/1,000 live births in 1970 to an all-time low of 9.0/1,000 in 1983 (see Table 1). This compares favorably with the 11.2/1,000 rate for the U.S. neonatal deaths (the death of an infant under 28 days of age) have gone down even more dramatically from a rate of 16/1,000 in 1970 to 4.3/1,000 in 1983. Postnatal deaths (the death of an infant between the age of 28 days to one year) also show a small decline. Part of the reason for this decline has largely been due to major reductions in infectious disease deaths and in birth injury-related deaths.

Infectious Diseases: Major progress has been made in reducing mortality from infectious diseases through improved socioeconomic conditions, housing, sanitation, immunization and medical treatment. Nevertheless, enteric disease is still common.

Tuberculosis is still common in Montana, numbering 98 cases in 1982 (primarily on Indian reservations).

Table 1
Neonatal and Postnatal Mortality Rates by Year – Montana, 1970-1983

	Neonatal Deaths		Postnatal Deaths		Infant Deaths		Live Births
Year	Rate	Number	Rate	Number	Rate	Number	Number
1970	16.0	202	5.5	70	21.5	272	12,622
1971	15.0	185	6.6	82	21.6	267	12,347
1972	14.5	166	5.2	59	19.7	225	11,444
1973	13.6	155	5.9	67	19.5	222	11,392
1974	12.5	153	4.0	49	16.5	202	12,273
1975	10.7	129	4.8	58	15.5	187	12,070
1976	11.7	148	4.8	61	16.6	209	12,605
1977	8.9	119	4.8	64	13.8	183	13,304
1978	7.3	99	4.1	56	11.4	155	13,545
1979	7.1	100	3.6	51	10.7	151	14,057
1980	7.7	110	4.6	66	12.4	176	14,208
1981	6.3	90	4.4	63	10.7	153	14,309
1982	6.5	95	3.6	52	10.1	147	14,538
1983	4.3	60	4.7	66	9.0	126	14,054

SOURCE: Montana Department of Health and Environmental Sciences, Bureau of Records and Statistics, compiled by Montana Health Systems Agency.

Shigellosis incidence went up from 26 cases in 1980 to 50 cases in 1982. The incidence of gonorrhea is still high, numbering 1,348 cases in 1982. Overall, Montana seems to be doing much better than most states in reducing the incidence of infectious and childhood diseases.

Diseases Related to Personal Life Habits: The toll of diseases engendered by personal life habits of the population demands attention and resources. Coronary heart disease death rates have declined substantially over the past decades, most probably due to some life habit changes such as reduced overconsumption of animal fats and protein, cessation of cigarette smoking, and increased physical activity, as well as to greater attention to detection and management of hypertension.[13]

The five leading causes of death in Montana in 1983 were life style related (see Figure 1). The major health agencies have not brought the full weight of their activities to focus on the massive health education needed to foster further decline in these important causes of morbidity and mortality. There has been substantial progress, but the potential for more cost-effective health programming in this area is very great.

2.0 Current Situation

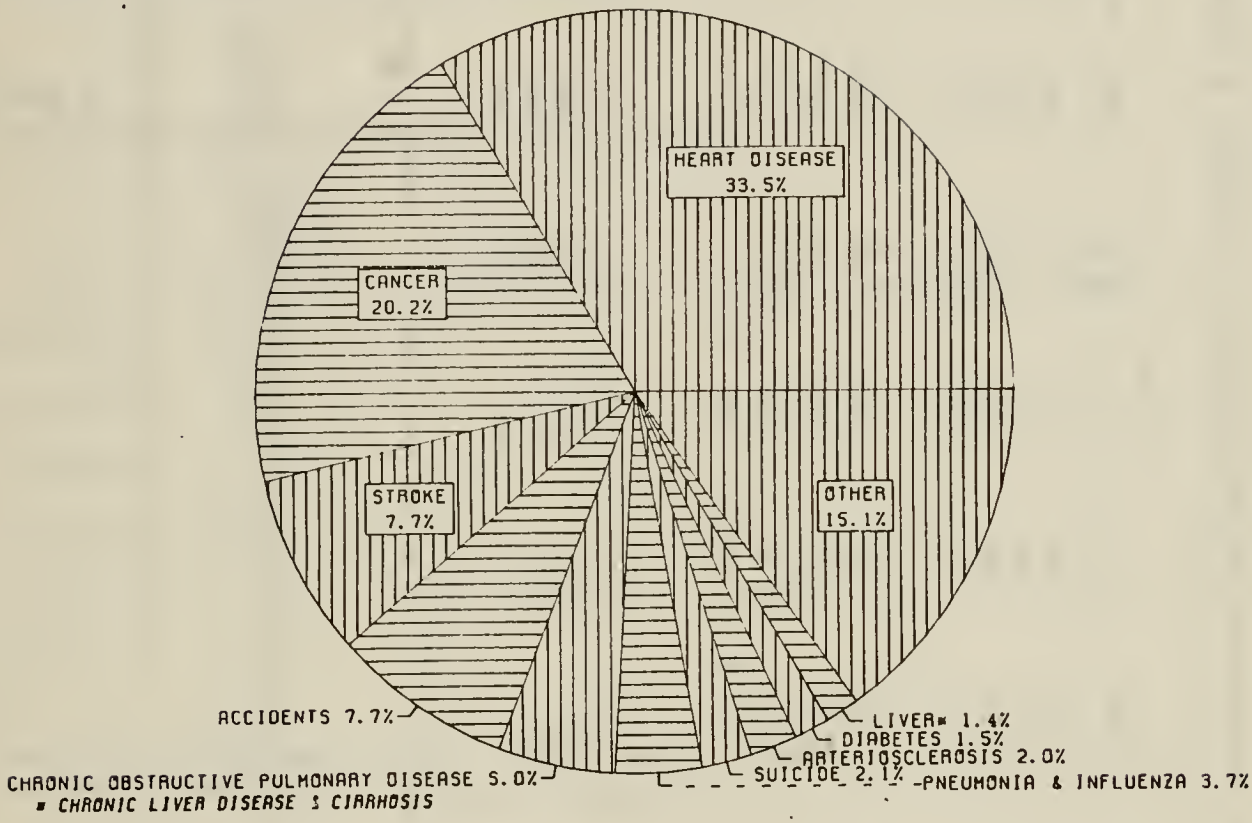
2.1 Availability

The increase in the number of physicians in Montana between 1960 and 1983 is shown in Table 2. Overall the number of physicians has increased during this period. However, the proportion of primary care physicians has decreased from the 1979 high of 3.2 primary care physicians to 1.0 non-primary care, to a 1983 low of 1.3 primary care physicians to 1.0 non-primary care physician.

Table 3 shows the population of primary care physicians in Montana by planning region and primary care specialty.

Table 4 shows a detailed analysis of the active physicians in Montana in 1983. The rural counties show a significantly higher population to physician ratio. However, the physicians in these counties are more likely to

Figure 1
Leading Causes of Death for Montana Residents – 1983



SOURCE: Montana Department of Health and Environmental Sciences, Bureau of Records and Statistics.

Table 2
Number of Physicians in Direct Patient Care in Montana, Distribution of Speciality Groupings, and Population to Physician Ratios for Selected Years

		YEAR						
	Specialty Grouping	1960	1965	1969	1974	1979	1980	1983
Number Physicians	All Direct Patient Care	593	625	660	692	763	1085	1099
	General/Family Practice	236	276	249	218	321	321	287
	Primary Care Specialists	199	184	206	209	261	361	318
	Non Primary Care	152	165	204	257	181	398	494
	Unknown	6	--	1	8	--	5	--
Percent	All Direct Patient Care	100%	100%	100%	100%	100%	100%	100%
	General/Family Practice	39.8%	44.2%	37.7%	31.5%	42%	29.6%	26.1%
	Primary Care Specialists	33.6%	29.4%	31.2%	30.2%	34.2%	33.3%	28.9%
	Non Primary Care	25.6%	26.4%	30.9%	37.1%	23.7%	36.7%	44.9%
	Unknown	1.0%	--	0.2%	1.2%	--	.5%	--
Population to Physician Ratio	All Direct Patient Care	1138	1123	1051	1062	1028	728	742
	General/Family Practice	2860	2557	2787	3372	2444	2461	2841
	Primary Care Specialists	3391	3837	2787	3517	3006	2188	2564
	Non Primary Care	4441	4279	3401	3860	4334	1985	1650

Note: The increase in number and proportion of GPs/FPs between 1960 and 1965 was due almost entirely to a change in specialty designation and not a real increase.

SOURCE: Lawrence D. & D. Cherkin, The Physician Manpower Experience in Washington, Alaska, Montana and Idaho, 1960-1974. Department of Health Services School of Public Health and Community Health, University of Washington, Seattle, Washington, July 1973.

Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau, Licensed Physicians in Montana - 1983.

Table 3
Population of Primary Care Physician — Montana, 1983

Area	General Practice/ Family Practice	Internal Medicine	Pediatrics	Obstetrics/ Gynecology	General Surgery
Northwestern	82	36	20	22	22
North Central	48	18	12	11	15
Southwestern	79	33	17	12	25
South Central	44	4	13	15	15
Eastern	34	14	1	3	10
STATE	287	105	63	63	87

SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau, Licensed Physicians in Montana, 1983.

Table 4
Active Physicians and Primary Care Specialist in Montana by Subarea — 1983

Subarea	County	Active Non-Federal Physicians	Pop. Per Physician	Active GP/FP Physicians	Internal Medicine	Pediatrics	OB/GYN	Pop. Per Primary Care Physician
North-western	Lincoln	13	1,388	8	1	1	0	1,826
	Flathead	81	655	29	8	5	8	1,072
	Sanders	7	1,313	5	0	0	0	1,838
	Lake	20	978	11	1	2	1	1,305
	Mineral	4	914	3	0	0	0	1,218
	Ravalli	15	1,576	4	2	2	0	2,956
	Missoula	171	451	22	24	10	13	1,117
SUBTOTAL		311	659	82	36	20	22	1,281
North Central	Glacier	6	1,880	5	0	0	0	2,255
	Toole	3	1,910	3	0	0	0	1,910
	Pondera	4	1,713	3	0	0	0	2,284
	Teton	5	1,288	5	0	0	0	1,288
	Cascade	141	573	19	14	10	10	1,524
	Chouteau	3	2,017	3	0	0	0	2,017
	Hill	28	666	7	4	2	1	1,333
	Blaine	1	6,973	1	0	0	0	6,973
	Liberty	3	797	2	0	0	0	1,196
SUBTOTAL		194	748	48	18	12	11	1,631
South-western	Beaverhead	9	974	5	2	0	0	1,217
	Madison	4	1,443	3	0	0	0	1,924
	Gallatin	73	637	25	6	6	5	1,107
	Lewis & Clark	77	582	16	13	7	3	1,150
	Broadwater	2	1,694	1	1	0	0	1,694
	Jefferson	5	1,478	1	1	0	0	3,694
	Meagher	2	1,100	2	0	0	0	1,100
	Silver Bow	56	648	6	8	3	3	1,814
	Deer Lodge	14	819	5	0	0	0	2,293
	Powell	7	971	7	0	0	0	971
	Granite	2	1,312	1	0	0	0	2,624
	Park	14	955	7	2	1	1	1,216
SUBTOTAL		256	714	79	33	17	12	1,341

Table 4
Active Physicians and Primary Care Specialist in Montana by Subarea — 1983

Subarea	County	Active Non-Federal Physicians	Pop. Per Physician	Active GP/FP Physicians	Internal Medicine	Pediatrics	OB/GYN	Pop. Per Primary Care Physician
South Central	Fergus	15	873	9	2	0	0	1,190
	Petroleum	0	0	0	0	0	0	0
	Judith Basin	0	0	0	0	0	0	0
	Wheatland	1	2,290	1	0	0	0	2,290
	Golden Valley	0	0	0	0	0	0	0
	Musselshell	3	1,574	2	0	0	0	2,362
	Sweet Grass	2	1,644	1	0	0	1	1,644
	Stillwater	5	1,165	4	0	0	0	1,456
	Carbon	5	1,672	5	0	0	0	1,672
	Big Horn	5	2,370	5	0	0	0	2,370
	Yellowstone	215	539	17	25	13	15	1,657
SUBTOTAL		251	677	44	27	13	16	1,699
Eastern	Valley	12	842	6	1	0	1	1,263
	Daniels	1	2,812	1	0	0	0	2,812
	Sheridan	2	2,942	2	0	0	0	2,942
	Roosevelt	11	1,035	8	1	0	0	1,265
	McCone	1	2,773	1	0	0	0	2,773
	Garfield	0	0	0	0	0	0	0
	Richland	13	1,151	3	4	0	1	1,870
	Dawson	7	1,815	3	2	0	0	2,541
	Wibaux	0	0	0	0	0	0	0
	Rosebud	6	2,080	4	2	0	0	2,080
	Treasure	0	0	0	0	0	0	0
	Powder River	0	0	0	0	0	0	0
	Custer	19	710	1	3	1	1	2,249
	Prairie	1	1,891	1	0	0	0	1,891
	Phillips	1	5,452	1	0	0	0	5,452
	Fallon	3	1,286	2	1	0	0	1,286
	Carter	1	1,686	1	0	0	0	1,686
SUBTOTAL		78	1,361	34	14	1	3	2,042
State Total		1,099	742	287	128	63	64	1,504

SOURCE: Montana Department of Health and Environmental Sciences, Health Planning and Resource Development Bureau, Licensed Physicians in Montana, 1983.

be family/general practitioners. Many of these counties are also likely to have only one or two physicians. The primary care specialists (internists, pediatricians, and obstetricians/gynecologists) are, for the most part, located in the larger cities. One reason for this is that they need a larger population base to maintain a viable practice.

Medical Manpower Shortage Areas: To be designated a "Health Manpower Shortage Area," a community must have a population to physician ratio of 3,500:1. The Federal Public Health Service has two sets of criteria for determining if an area has adequate medical care. Once applied, the criteria will qualify an area as a "Health Manpower Shortage Area" or a "Medically Underserved Area." Areas that are designated health manpower shortage areas are automatically defined as medically underserved. Areas that do not readily qualify as health manpower shortage areas may still qualify as medically underserved when the index of medical underservice (IMU) is applied.[14]

There are three conditions that must be met if an area is to qualify as a health manpower shortage area. The area must:

1. be a rational service area;

2. have a population to physician ratio of 3,500:1 or 3,000:1 if an unusually high need for primary care services or an insufficient capacity of existing providers exists; and

3. indicate that existing primary care physician services are inaccessible due to distance, overutilization, or economic factors.

In Montana, this means that the following counties can be designated as health manpower shortage areas:

Big Horn County
Blaine County
Chouteau County
- Fort Benton Division
- Geraldine Division

Missoula County
- Seeley Lake/Blackfoot Division
Petroleum County
Phillips County
Powder River County

Daniels County
Gallatin County
- West Yellowstone
Garfield County
Golden Valley County
Jefferson County
- Boulder Division
Judith Basin County
Lake County
- Big Fork/Swan River Division
Lewis and Clark County
- Lincoln Division
Madison County
- Harrison Division
- Madison Valley Division
- Virginia City Division
Meagher County
Powell County
- Ovando Division
- Helmville Division
Roosevelt County
- Ft. Peck Reservation Division
Rosebud County
Sheridan County
Sweet Grass County
Toole County
- Shelby Division
- Sunburst Division
- S. Toole Division (West)
Treasure County
Valley County
Wheatland County
Wibaux County

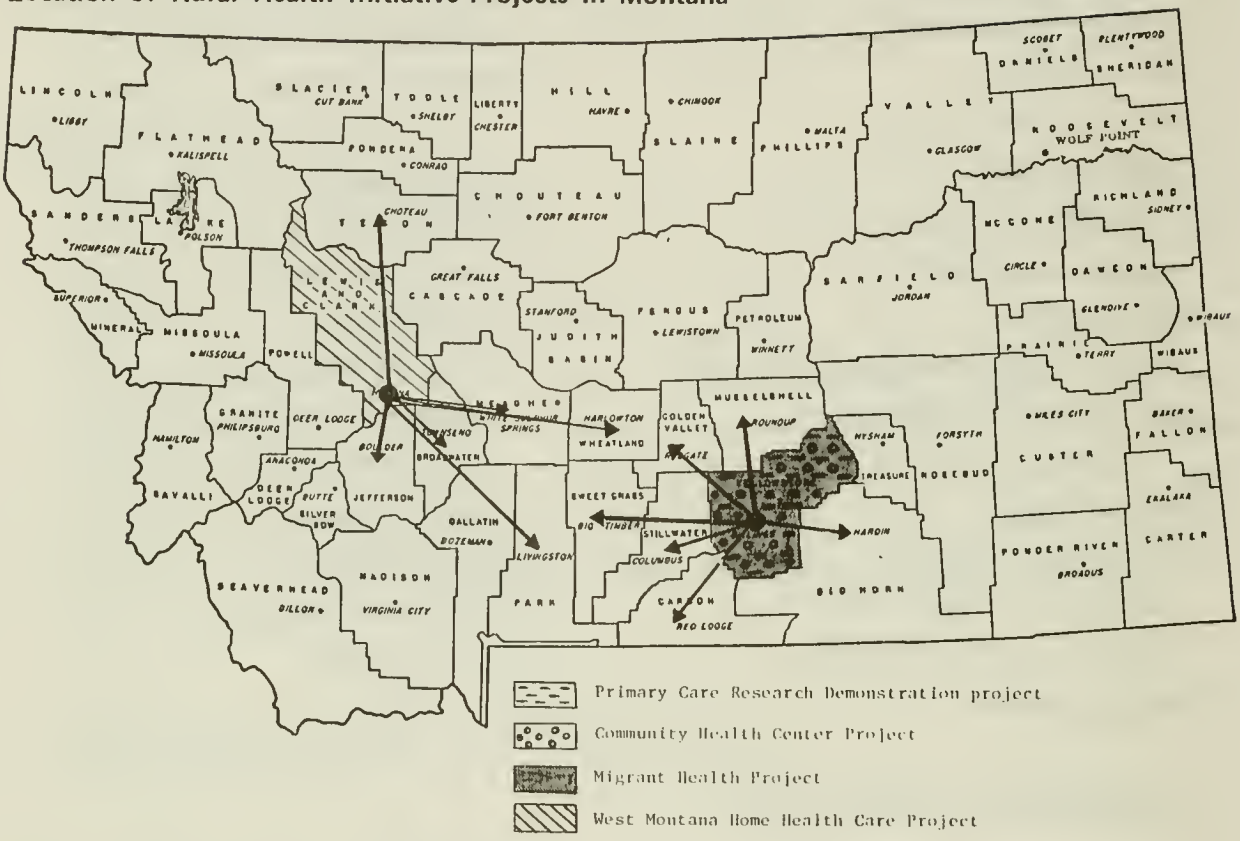
Dental Manpower Shortage Areas:

Roosevelt County
- Poplar Division
- Wolf Point Division
- Wolf Point Rural Division
Lake County
- Lake Division
- Missoula Division
- Sanders Division

Also, all Indian Reservations automatically qualify as medical manpower shortage areas. The Rural Health Initiative (RHI), a federal program involved with physician recruitment and placement, provides funds to communities that qualify as medically underserved areas. However, federal funds for this program are no longer forthcoming. There are only four areas left in Montana that currently have RHI funded projects. Figure 2 shows the location of these projects and the areas they serve.

Nurse Practitioners (NPs)/Physician's Assistants (PAs): Another major factor that should be included in a discussion of medical manpower requirements is the potential role NPs/PAs could play in meeting the State's primary care needs. As noted in the Background and Trends sections,

Figure 2
Location of Rural Health Initiative Projects in Montana



SOURCE: Montana Health Systems Agency.

several studies have indicated that NPs/PAs can be effective providers of primary care.

Figure 3 illustrates the location of and areas served by the approximately 60 to 65 NPs in Montana. PAs are recognized only in specific instances when the supervising physician and the attending assistant both apply to the Board of Medical Examiners and submit a specific Utilization Plan which has to be approved by the Board. PAs are, otherwise, not licensed or certified independently. The current estimate of PAs in Montana is twelve. Bozeman, Butte, and Great Falls each have two. Columbia Falls, Kalispell, Hardin, and Colstrip each have one. The location of the remaining two is unspecified. Consistent standards for the appropriate number of NPs/PAs, as a ratio of providers to population, have not been developed. However, federal funding criteria consider NPs/PAs to be equivalent to 50% of a full-time physician when calculating provider productivity.[15]

2.2 Accessibility

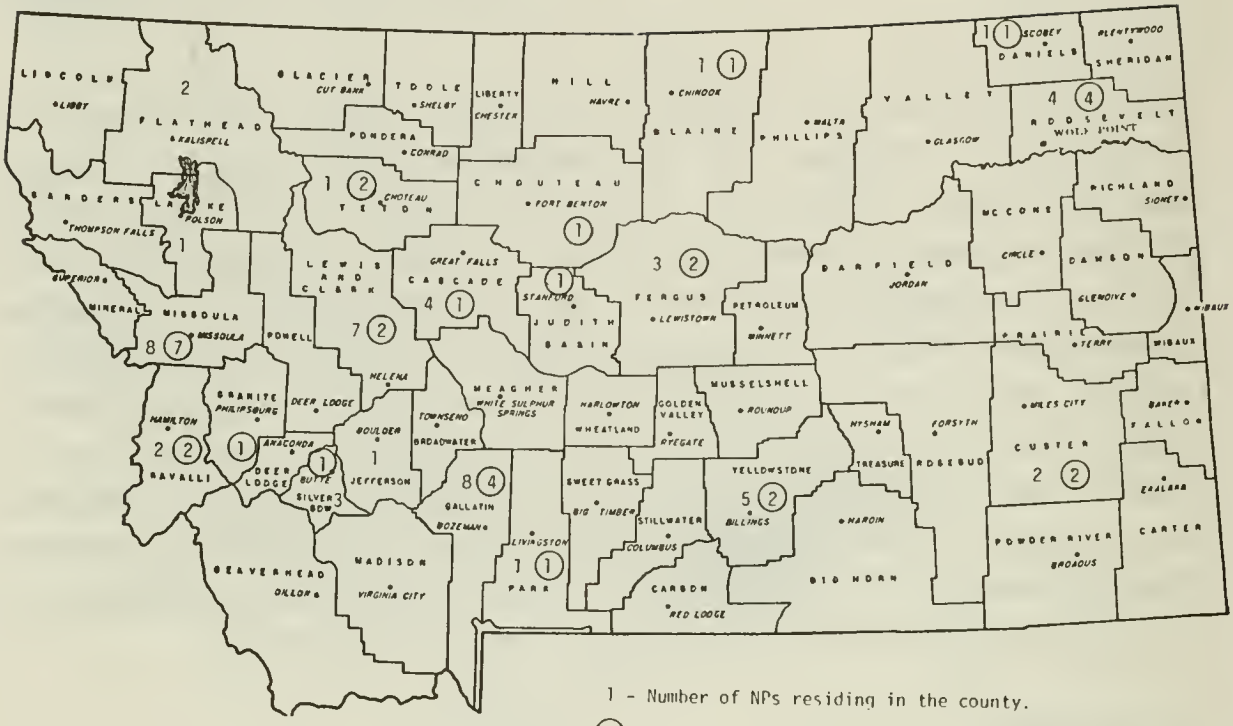
The concept of access to primary care services can be examined from at least four perspectives:

-- geographical access,
-- temporal access,
-- financial access, and
-- psychosocial access.

Geographical Access: Based on the number and distribution of primary care physicians as well as population to primary care physician ratio, many Montana residents would generally travel for 30 minutes to 2 hours to reach a primary care provider. The severe weather conditions, narrow and winding roads, physical geography, and the shortage of primary care providers all combine to make primary care services less accessible to many Montanans (except for the metropolitan areas).

Temporal Access: Temporal access refers to the ability of patients to receive services at the time they need them. Traditionally, primary care services are provided on a 9:00 a.m. to 5:00 p.m. basis. These hours of

Figure 3
Location of Nurse Practitioners in Montana



1 - Number of NPs residing in the county.

(1)- Number of NPs providing primary care in the county.

SOURCE: Montana Nurse Practitioner State Interest Group, September, 1984

service limit access to care when illness occurs in the evenings and when an individual's employment does not allow seeking care during business hours. A direct assessment of the availability of after-hour services is not available. However, a surrogate measure of access constraints resulting from limited after-hour services may be the use of emergency facilities. Patients may use emergency rooms because they are open on weekends and after the normal 9:00 a.m. to 5:00 p.m. office hours. Most emergency rooms maintain 24-hour service. Also, the use of an emergency facility for primary care can be attractive because of the convenience of being able to use the service at any time.

Financial Access: Financial access refers to the patient's ability to pay for services and the willingness of a provider to accept the patient's mode of payment. One of the major problems concerning financial access to primary care relates to Medicaid recipients. Also, most insurance plans provide less coverage for primary care than for hospital services.

Medically needy persons are those who do not qualify for public assistance but are unable to meet the cost of personal medical care. A standard has been set for the "maintenance need" of each applicant (i.e., the amount of money per month which is necessary for the applicant to live), which is compared to the applicant's net monthly income. If the applicant's net monthly income is less than the "maintenance need," eligibility is granted. If the net income is above the "maintenance need," the applicant must pay a "share of cost" which is the difference between "maintenance need" and net income.

The "low-income working class" are generally the ones with the most difficulty in getting access to primary care. They are generally without access to third-party reimbursement (public or private) and with incomes too low or sporadic to cover the rising cost of personal health care. When faced with access barriers, they are often left with no alternative but to use the hospital emergency room or go without medical care.

Psychosocial Access: Psychosocial access refers to an individual's cultural, personal or other health beliefs that may limit his/her use of primary care services. This factor is difficult to measure directly but

relates to the extent of migrant farm worker employment. This problem is relatively minor in Montana but Native Americans are also believed to have similar access problems. The Indian Health Programs have had a significant impact in improving access for Native Americans.

2.3 Cost

A discussion of the cost implications of primary health care is limited due to unavailable data. Nevertheless, national estimates of total expenditures for primary care can be developed and distinctions between the cost associated with alternative settings can be drawn.

Nationally, approximately 19.2% of total health care expenditures are for physician services and an estimated 71% of all physician visits are to primary care physicians.[16,17]

The estimated average charge per primary care visit in Montana is $22.00.[18] It should be noted that the cost for a single visit may vary widely depending on the extent of the examination or the nature of the complaint. If all primary care visits are assumed to be either to a private physician's office or outpatient clinic, the total amount spent on primary care in Montana in 1983 was approximately $57.4 million (3.2 visits per person,[19,20] $22.00 per visit).

However, as already indicated, a substantial number of visits to emergency facilities for primary care are experienced in the State. According to the 1983 DHHS book Health United States and Preventive Profile, 13.8% of all physician visits in the West (including Montana) were to emergency rooms or hospital outpatient departments. If one considers that emergency room costs are two to five times greater than a private physician's office visit, the total cost of primary care services in the State can be estimated to range from $65.4 million to $89.1 million. This represents an estimated excess cost of $8 million to $31.7 million in 1983. These estimates can be regarded as conservative since the estimated average cost per visit is based on physician's fee for brief routine examination and does not include more extensive or complicated procedures. The information does, however, point out the important cost implications of assuring that

appropriate primary care services are available and accessible to the population.

The introduction of federally-funded clinics into underserved areas creates additional cost considerations. Federal funding criteria require a number of social and support services which increase the overall cost per encounter. Federal Bureau of Community Health Services standards for primary care medical services show $16 to $24 per encounter.[21] Social and support services are considered separately from the cost per medical encounter. The total cost per encounter may double the cost per medical encounter once mandated non-medical services are included.

3.0 Future Resource Requirements

3.1 Availability/Accessibility

Physician requirements can be estimated based on demand for primary care services. National statistics indicate that during 1981, the average number of physician visits per person was 4.6. Utilization trends indicate a slight average decline in the number of visits per person (0.15 visits) from 1979 to 1981.[22] Using the assumption that 80% of the medical care required is for primary care,[23] the number of primary care visits per person per year is estimated to be 3.2.

Physician productivity (the number of visits a single physician can provide in a year) varies with physician specialty. Data collected by the American Medical Association (AMA) indicate the following average productivity for primary care physicians in 1982:

Physician Specialty	Productivity[24] (Visits) Per Week
General/Family Practice	115.0
Internal Medicine	61.6
OB/GYN	93.7
Pediatrics	100.8

Assuming one month's vacation per year per physician, the estimated primary care physician productivity per year would be:

Specialty	Productivity Per Year
General/Family Practice	5,520
Internal Medicine	2,957
OB/GYN	4,498
Pediatrics	4,834

The capacity of an area to provide primary care services depends not only on the number of physicians but also on the mix of physicians in the area. Primary care physicians in the U.S. provide the following mix of services:[25]

Specialty	Percent of Total Primary Care Visits
General/Family Practice	48%
Internal Medicine	18%
OB/GYN	13%
Pediatrics	21%

If one assumes this is a "reasonable" mix of specialties, this information can be used to estimate both the average productivity rate for primary care physicians and the population's expected demand for primary care services by specialty. Based on the information presented above, it can be estimated that primary care physicians have an average capacity of 4,452 visits per year. At this level of productivity, with an average of 3.2 visits per person per year, a primary care physician could serve a population of approximately 1,200 persons.

In the remote areas of the State, most primary care services are provided by family or general practice physicians. Other primary care specialty services are found in areas with larger numbers of the population group needed to support a specific specialty (e.g., women 15-44 years for OB/GYN or children 15 years and younger for pediatrics).

Because of the necessity in rural areas for family/general practitioners to provide many of the services which would often be referred to other primary care specialists and due to the lack of specialty backup and hospital emergency facilities, it is unrealistic to assume that a full range of primary care services will be available in most rural areas. In many isolated settings, family/general practitioners, of necessity, must be capable of meeting a majority of the obstetric, gynecological, pediatric, and internal medicine needs if they are to meet the demands of consumers in the area.

It should be noted that a single, complete methodology for estimating primary care physicians requirements does not exist. The 1980-84 Health Systems Plan used the ratio of:

1 General/Family practitioner per 2,500 persons,
1 Internist per 10,000 persons,
1 Pediatrician per 10,000 persons, and
1 OB/GYN per 10,000 persons.

According to AMA statistics, the average productivity rate for primary care physicians has declined from 6,252 visits per year in 1978 to 4,452 visits per year in 1982. This means that more primary care physicians would be required than previously thought.

The demand-based method described earlier will require further studies in the future to include: 1) age and sex adjustments for each specialty, and 2) determination of the population size and density required to support OB/GYN and pediatrics services.

Until a more complete methodology can be developed, a ratio of one primary care physician for every 3,000 persons shall be considered a "minimum" standard. Based on this standard, the number of primary care physicians required by specialty for 1990 is shown in Table 5.

Given greater utilization of NPs and PAs in the delivery of primary care, a significant reduction in the requirements for primary care physicians might be possible.

Table 5
Montana Primary Care Physician Requirement by Speciality – 1990

Region	Family/General Practice		Internal Medicine		OB/GYN		Pediatrics		Total
	Exist	Needed	Exist	Needed	Exist	Needed	Exist	Needed	
Region I	34	18	14	7	3	5	1	8	38
Region II	48	24	18	9	11	7	12	11	51
Region III	44	31	4	12	16	8	13	13	64
Region IV	79	32	33	12	12	9	17	14	67
Region V	82	37	36	14	22	10	20	16	77
STATE TOTAL	287	142	105	54	64	39	63	62	297

SOURCE: Montana Health Systems Agency

4.0 General Analysis

4.1 Issues

Prevention: Prevention has been a key factor in the improved health status of Montanans and still has enormous potential for reducing morbidity and mortality in the State. Nevertheless, there is concern that primary preventive care is losing its place in the priority scale of health policy in the State and the nation. Clinical and hospital services demand and receive priority for resources and manpower. In 1982 (the latest figures available), the State spent $29.7 million on government public health programs (mostly construction and research projects). This amount accounted for only 4% of the total $825.9 million spent on health care for that year; 42% and 57% less than 1981 and 1980 spending levels respectively. While spending in this category continues to decline, overall health care spending rose from $590.4 million to $825.9 million, a 40% increase in total spending over the same period. This, in spite of the growing recognition that most of the nation's health problems today are chronic in nature and that clinical and hospital services can, in most cases, produce palliative care only. Primary and preventive care, on the other hand, can substantially reduce the State's staggering health care bills and decrease morbidity and mortality resulting from chronic afflictions. A distorted balance has emerged in our health policy. Erosion of preventive health services will undermine advances already made in health care. Prevention should not be relegated to the status of an adjunct or afterthought to hospital or other clinical services.

Prevention is multidisciplinary, involving a wide range of professionals: nutritionists, health educators, dental health workers, social workers, epidemiologists, environmental health specialists, nurses, and physicians. It is also multiagency in that it requires common or parallel activities with other agencies whose work affects the physical and social environment of the community. It is long-term in its frame; it is a complex of direct and indirect activities related to specific activities and defined target groups. Because of these characteristics it requires cadres of health workers to choose prevention as their major professional activity.

Epidemiology provides the analytic tools needed to measure health status, morbidity and mortality of the community as a whole and of groups at special risk. Practitioners must have dynamic contact with epidemiologists to provide the questions to be asked, the field setting in which population groups can be examined, and the feedback on which evaluation can be based.

Health Education: It is now often said that the major health problems of the Western world cannot be resolved by hospital care. Health services can offer treatment for chronic conditions, but the underlying causal factors are largely products of our social behavior and man-made environments. The challenge for the future is to join health services with broader movements for social change.

In seeking change, however, we must recognize the importance of motivation. Teachers and lecturers know that it is relatively easy to transmit information and even change attitudes in the classroom or lecture hall if the students' motivation is high. But health education of the general public is different. Most people do not have receptive, "prepared" minds; health is not uppermost. Many other concerns, such as worries over family or work, immediate pleasures, matters of social status, or pursuit of money, dominate our thoughts. When we are open to concern for health, the influences of the commercial world or peer groups may be more important than the messages from health educationists.

Instead of a teaching model, health educationists must offer education in its literal meaning -- leading to learning. This is a more difficult task. The teacher must change from his superior "knowing" position to that of accepting an equal status with people he seeks to influence. This change is necessary to encourage participation in understanding the issues. Real participation, with the teacher acting as "facilitator," may lead to different endpoints of understanding and behavior than originally envisaged by the teacher.

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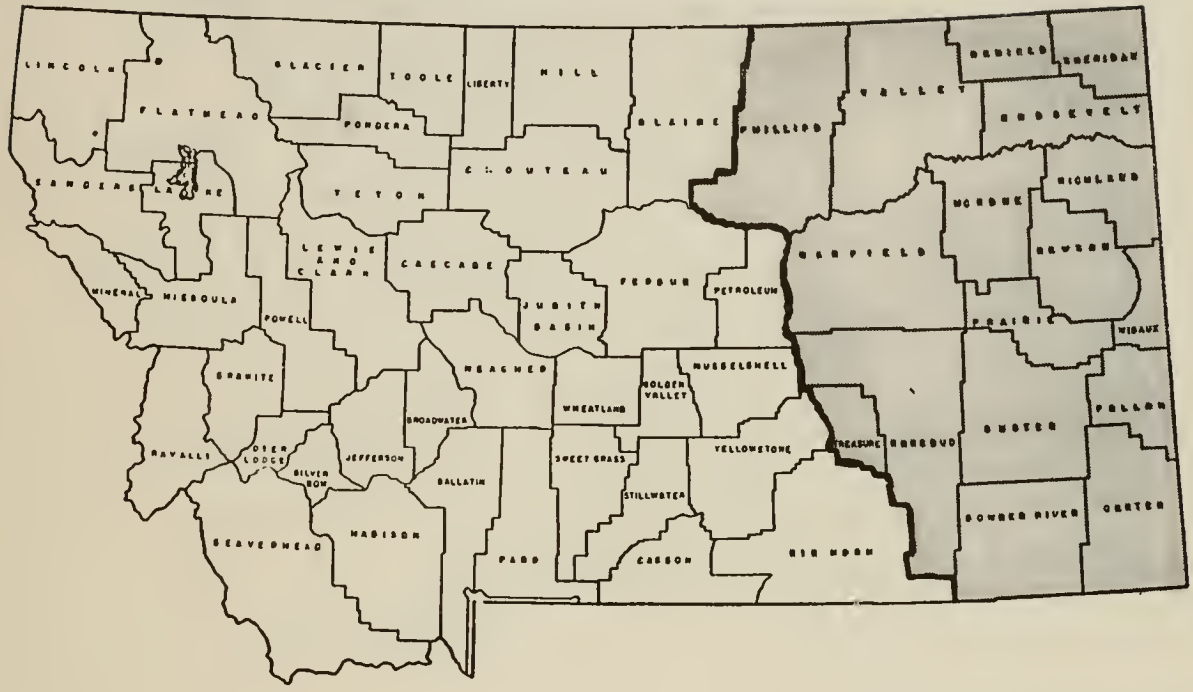
Appendices

Region I — Eastern Montana Subarea Advisory Council Members



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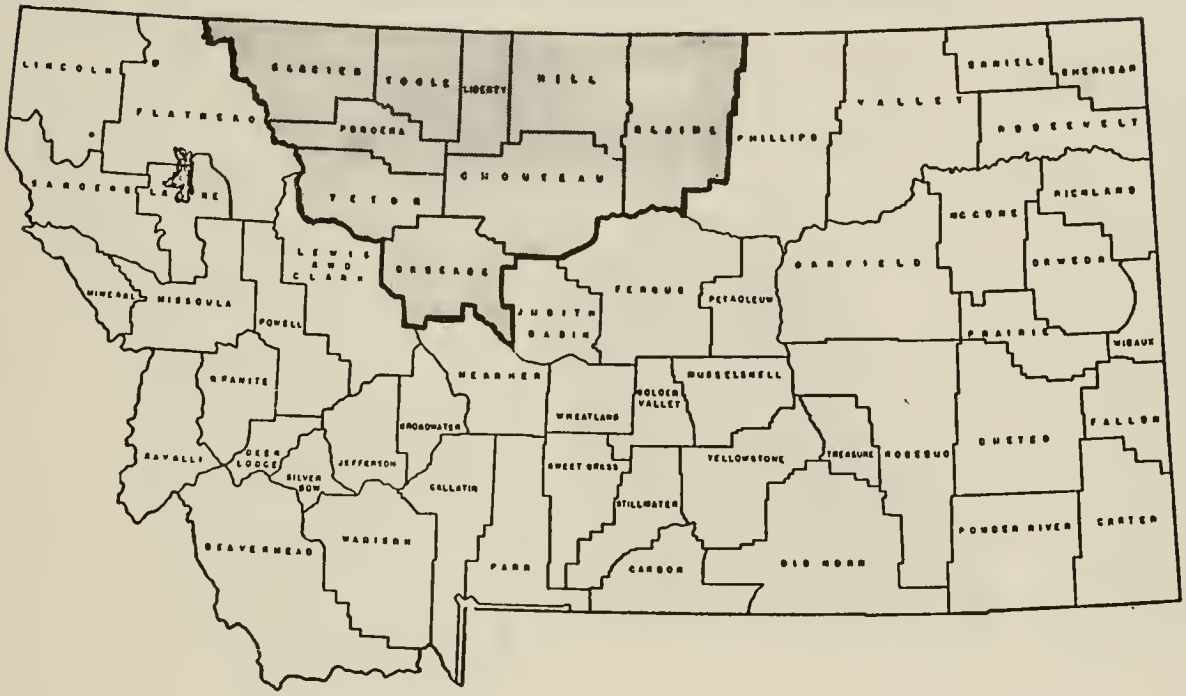

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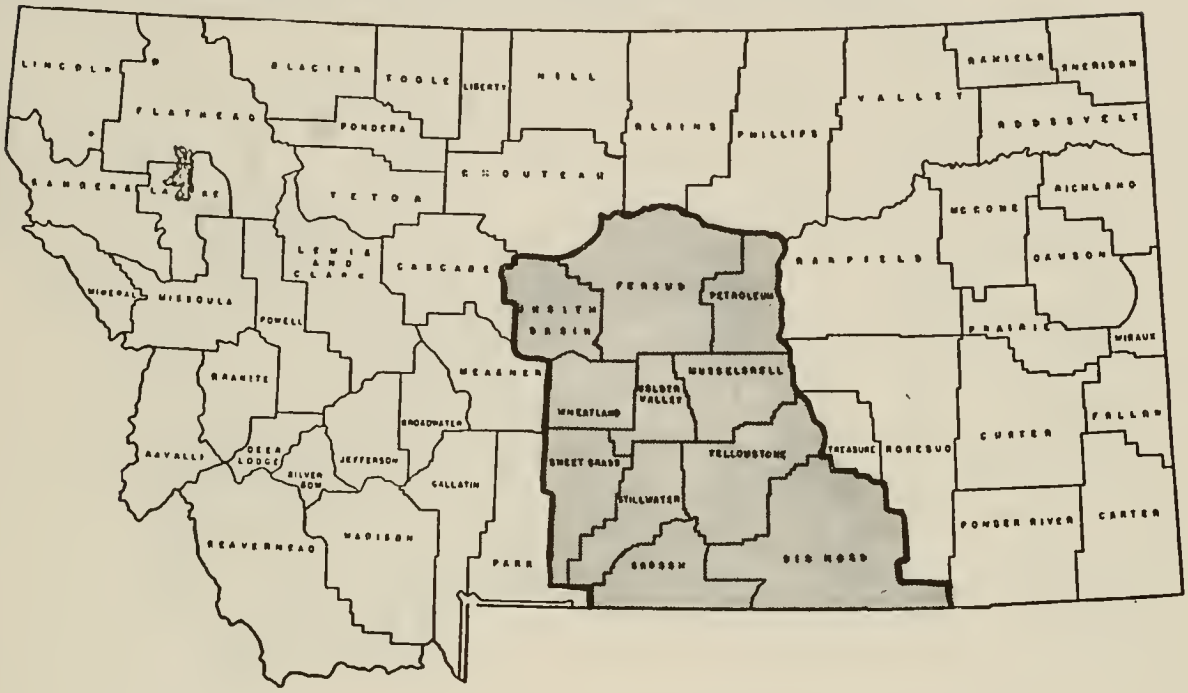

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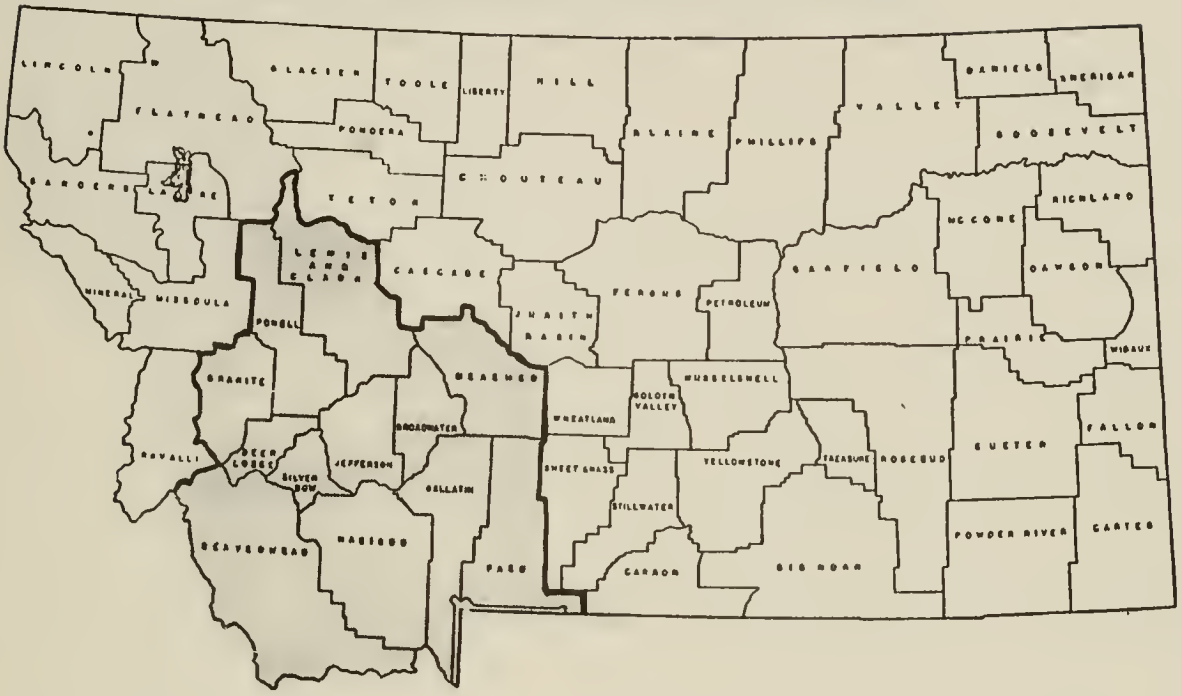

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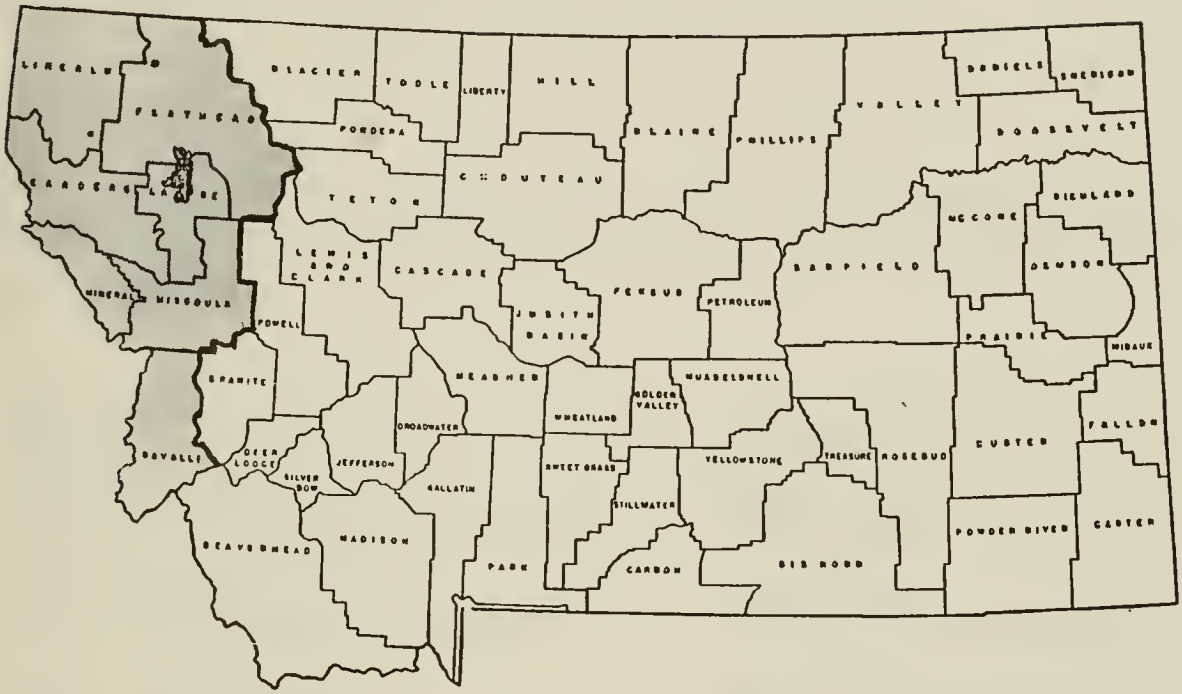

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